

Rock Products

DEVOTED TO
Concrete and Manufactured
Building Materials

Volume X.

CHICAGO, ILL., OCTOBER 22, 1910.

Number 4.

CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributors of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States, and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydratins" waterproofing material. "Universal," "Acme" and "Electroid" Brands Ready Roofing. Get our prices.

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ULTRA HIGH GRADE

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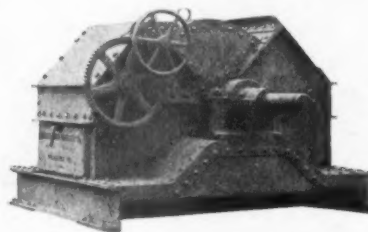
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Rock Products

DEVOTED TO
Concrete and Manufactured
Building Materials

Volume X

CHICAGO, ILL., OCTOBER 22, 1910

Number 4

MAUMEE RIVER BRIDGE, WATERVILLE, OHIO

A Magnificent Example of Reinforced Concrete Bridge Construction and one
of the Longest and Highest in the World.

One of the longest and highest reinforced concrete bridges in the world has, under a severe test of time, wear and weather, amply satisfied the builders, and the users also, as to its efficiency. This bridge is the new Maumee River bridge over the Maumee River near Waterville, Ohio, and about fifteen miles southwest of Toledo, Ohio.

Not including approaches, the bridge is twelve hundred feet long, consisting of twelve arches of spans 75, 80, 84, 87, 89, 90, 90, 89, 87, 84, 80 and 75 feet each. The roadbed is sixteen feet wide between copings, and is forty-five feet above low water. The bridge now carries a single track of the Lima & Toledo Traction Co., a division of the Ohio Electric Railway, which is a part of the syndicate that controls the Indiana electric system. A special feature of the bridge is the extreme weight it is designed to carry. It is capable of bearing 10,000 pounds a lineal foot of track, or over five hundred tons on each span. The heaviest railroad loading at the present time is only about one-tenth that heavy, and ordinary bridge construction is only designed to carry one-tenth as great a load as the Maumee bridge. The great capacity of the bridge was designed on the ground that concrete bridges grow stronger with age and will endure for thou-

sands of years, and so should be built with an eye to future increase of traffic. The traffic on the Lima & Toledo road is expected in the near future to consist of cars weighing 100 tons on two tracks.

Yet with all this capacity for carrying enormous loading, the efficiency of reinforced concrete is such in a design like this bridge that but 9,200 cubic yards of concrete were required and one hundred tons of steel.

The cement was furnished by the Lehigh Cement Co. and 10,000 barrels were used. William E. Ryan, a contractor of Toledo, furnished all the crushed rock for the structure.

A notable feature was that all the sand used in the building was taken direct from the river bed, only a short distance from the bridge. The contract price of this bridge was but \$77,000.00, competing favorably with steel bridges for the same location.

At this particular point, as well as several other places along the Maumee, the river is periodically subject to fierce ice jams each winter, the ice rushing down the river in cakes sometimes measuring over fifty feet square and seven or eight feet thick. These cakes act like logs, magnified twenty-five or thirty times, when they hit a bridge, lodging in a solid wall from bank to bank and bringing an incalculable strain on the bridge, especially between the arches, under which the ice pushes its way and spreads, trying to get through. Before the completion of the bridge a steel structure of four spans

measuring one hundred and forty feet each, about four miles down the river from the new Maumee bridge, was totally wrecked by ice jamming between the piers and spreading them until the steel was sprung and useless as an aid to traffic. The ice cakes piled up against the bridge until they formed a thick wall reaching as high as the flooring; then the weight of the numberless cakes still rushing down the river forced the ones in front through the pier, thus causing the damage.

There is, of course, the same possibility of an ice jam forming against the concrete bridge that there would be against a steel one, but the concrete structure is far better able to resist the force of the ice, taking into consideration the fact that the concrete bridge is upwards of ten times heavier than the corresponding steel structure on concrete abutments; a force ten times as great as would be required to overturn it or force it out of the channel, and, moreover, the arched form and great weight on the piers eliminate all prospects of a jam spreading the piers as was the case in the steel structure wrecked at Maumee, even if the force of the jam were ten times greater than the disastrous one.

In the accompanying photograph is shown a half-section of the Maumee bridge. The height of the openings is from thirty-five to forty feet; the crowns are twenty-four inches on all spans. At the springings the piers are ten feet wide, arch rods one inch spaced six inches. Below is shown a sec-

(Continued on Page 41.)



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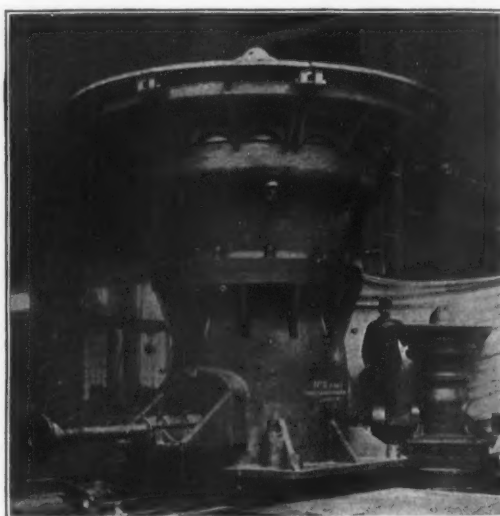
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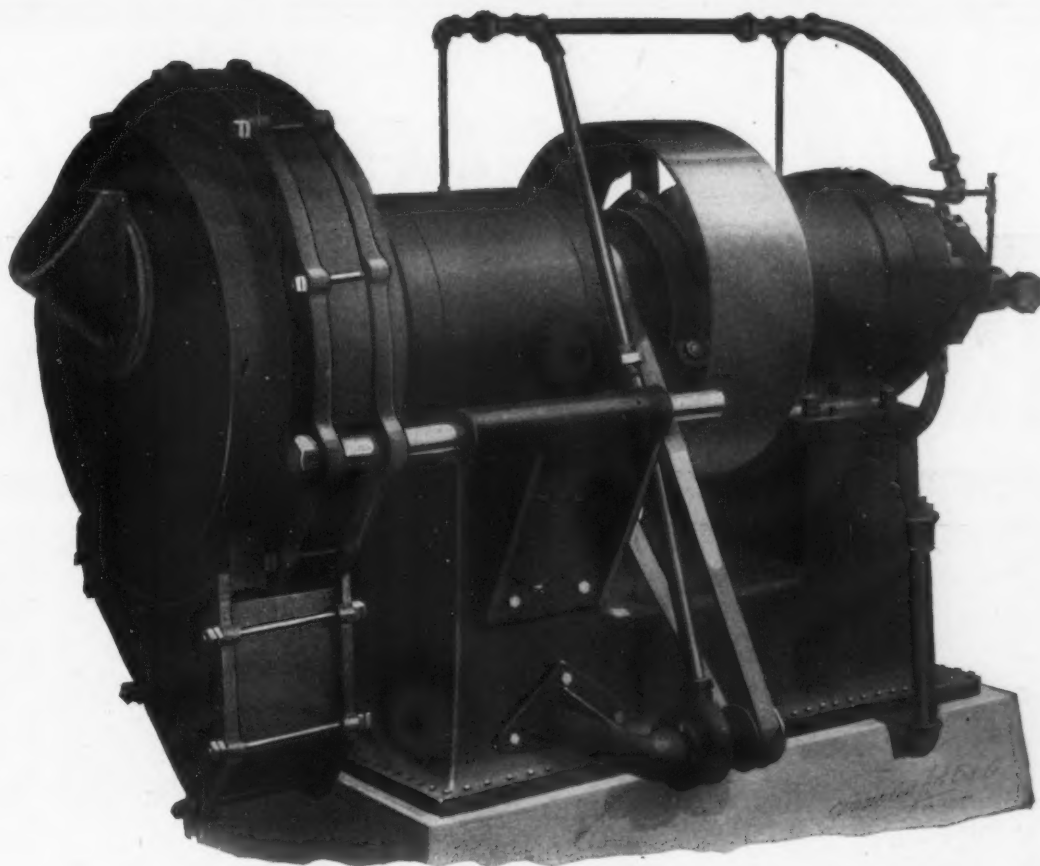
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It comes in many beautiful shades ranging from pure white to dark green. It gives a dull finish and is more economical than lead and oil or cold water paints.

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Bulletin No. 35

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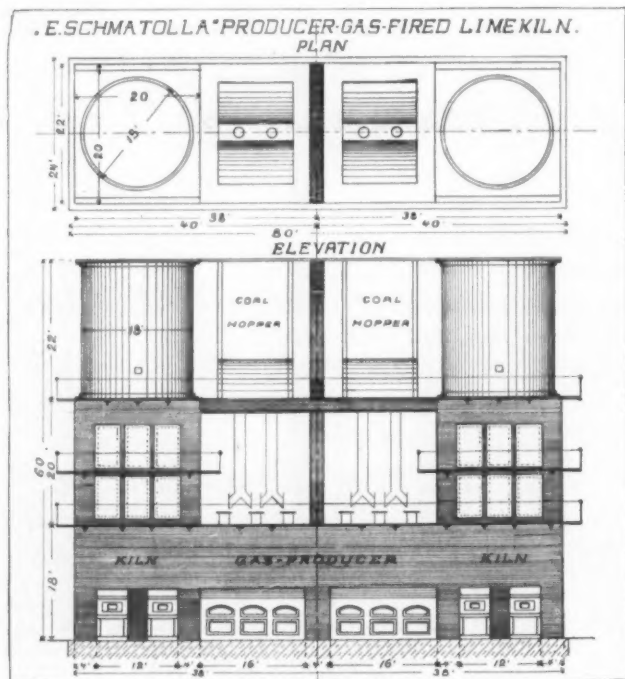
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The illustration herewith shows a double kiln for a daily output of about 100 tons burnt lime, newly designed.

For erecting the walls of this kiln, mostly quarry stone, with a mortar of lime, cement and plenty of sand is used within a 4 inch outside lining of common bricks and an inside lining of fire bricks (an isolating space filled with cinders between); for binding belts or layers of cement concrete, reinforced by scrap iron, old rails, wire cables, etc., are used. For the upper part, a steel shell may be used.

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The big platform on top of the kilns allows to keep a stock of limestone for the nights and Sundays. Upon consideration of the higher output such kilns can be built at very moderate cost. Compared with the direct coal and wood fired kilns nearly half of the fuel and labor bill can be saved.

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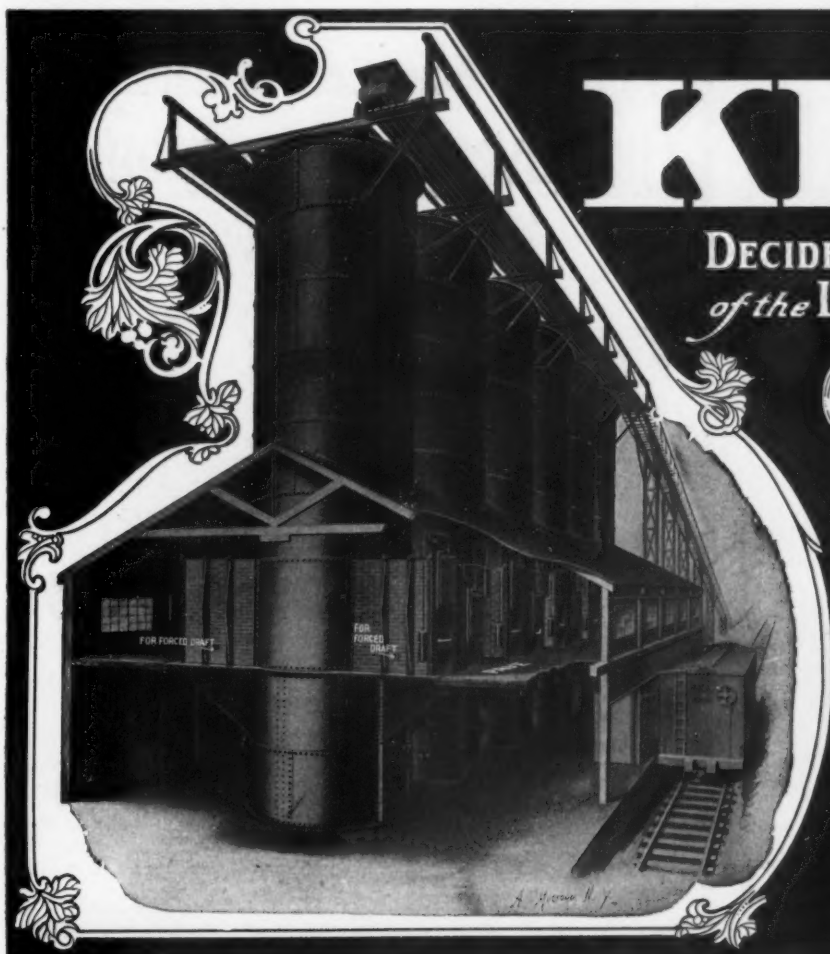
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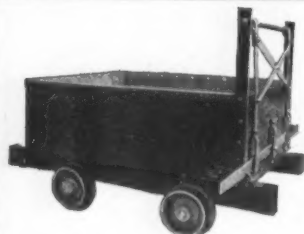
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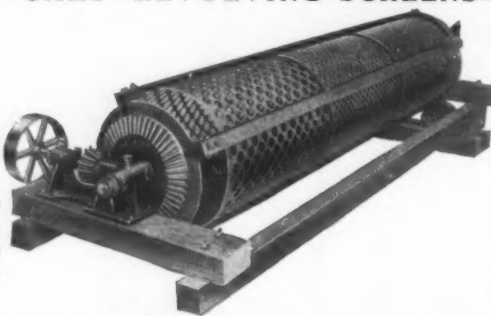
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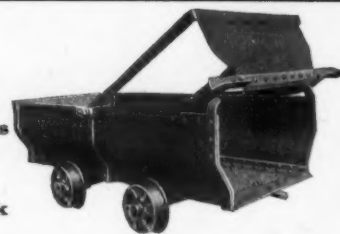


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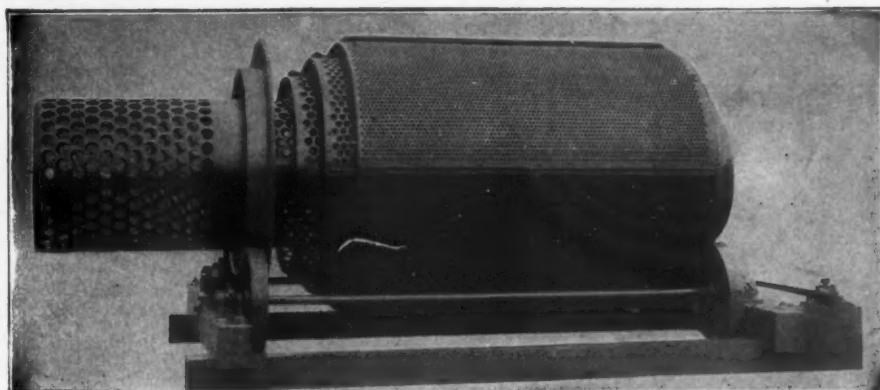
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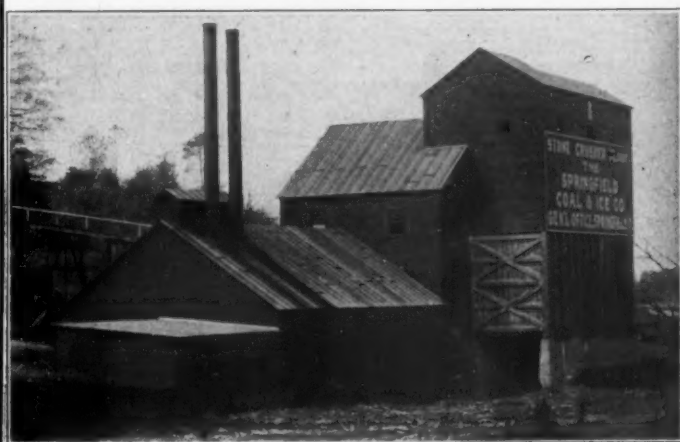
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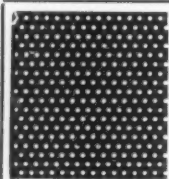
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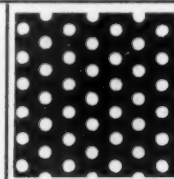
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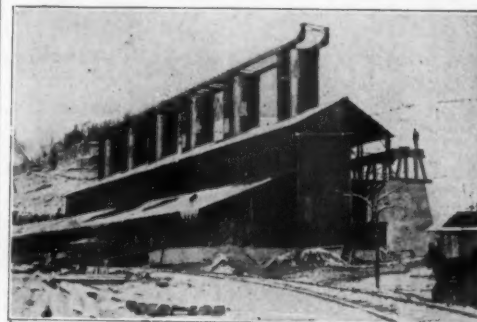
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Volume X.

CHICAGO, OCTOBER 22, 1910.

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Communications on subjects of interest to any branch of the stone industry are solicited and will be paid for if available.

Every reader is invited to make the office of Rock Products his headquarters while in Chicago. Editorial and advertising copy should reach this office at least five days preceding publication date.

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Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879.

Once in a while you meet a dealer in building materials who has no time to read the journal published in the interest of his trade. Usually he is a back number also, who considers his wide-awake competitor as a thorn in his side, and sighs for the good old times when he was the only duck in that particular puddle.

There is little fault to find with the weather conditions for building operations at the close of the season. With Indian summer yet to count upon it has been a very propitious year for the man who delivers the goods on the job. Material men and contractors have as a rule made good in big numbers, and wear the smile that don't come off.

Only a year or two ago hydrated lime was introduced in the principal material markets of the Pacific coast. It won immediate popularity, and that section is expanding in the use of hydrate even faster than in the East. At the rate of growth in popularity with lime users for hydrate it is safe to predict that in a very few years no other form of commercial lime will be known.

Sand and gravel plants are better equipped and better organized than they were a few years ago. It has been suggested that a national organization of this industry would be tremendously beneficial to these men whose operations are growing faster than they can keep pace with the changes and improvements. It's a good idea to get together and talk shop, to find out very often that some other fellow has a better way of doing things.

If you chance to know a handy and intelligent boy who needs the tip, put him next to the great opportunities that the future holds out to plasterers. The present demand for capable men of this vocation is scarcely more than half filled, while the future needs in this direction can scarcely be estimated. This is one grand opportunity for the skilled mechanic, and no cement user can consider himself fully equipped without a broad general idea of plastering—and how to do it.

The big subway project for Chicago is a certainty that can be reckoned with. Every citizen without exception is convinced that the subway is the only means for relieving the congested streets. Whenever public sentiment is unanimous upon any measure—that happens. It will mean the underbolstering of many of the older buildings with concrete caissons reaching down to bed rock, and the whole works will make busy rock crushers and cement mills, to say nothing of the armies of workers.

Interest in the preliminaries of the monster cement shows, at New York in December and at Chicago in February, already assures great success for these undertakings. It is part of the business of everybody who considers himself a cement man, in any sense of that broad term, to get busy and keep busy with his boosting irons to induce as many friends and neighbors as possible to attend the shows and get abreast of the times in building ideas. Nothing is more attractive to the average American than a trip to the great cities of New York or Chicago, and these occasions make future business for cement men more than anything else.

A big building year means a big year for the brick business from the standpoint of large volume of consumption. But the man who makes the brick never seems to get his share of the profits. Very few brick yards earn more than a bare living for the operator, and it is a fact that the mechanic who lays brick gets more for his time without any investment than the investor of considerable capital who makes the bricks. One thing is certain, bricks as well as every other burned clay product will never be any cheaper than now. Fuel, labor, and deposits of raw material will cost more and more every year, so there is no time in the future to recoup—now is the time to get the price.

In spite of all the rumors and doubts, of floods and drouths, of exploitation and speculation, the farmer comes to the end of his season's operations with his barns bursting with plenty of all that is needful to support human life. There is abundance in every section of the country where farming is pursued for profit. But from the South come the most remarkable reports of prosperity. Agricultural products in the southern states amount to more than a billion and a quarter—more than double the total of 1890. In that year the new idea of diversifying the crops was begun, so as not to depend upon cotton alone for the money crop. The results are almost beyond comprehension.

Public buildings are often made the toy of political organizations, and it very frequently happens the much mouthed criticisms of unqualified inspectors of the opposing faction just before election time provokes a tempest in a teapot which comes to nothing but a good bit of expense to prove the observations groundless. Even when the job has been passed by the world's greatest building experts, this kind of clatter will come up. Chicago, whose new county and city building in one, is both the largest, grandest and probably best constructed group on earth, must have a little session just before election. It is all claptrap—the best materials in the world, handled in the most intelligent manner, by the safest contractors and artisans, are responsible for a well-nigh perfect job. Remember that with such tremendous dimensions perfection in the minutest details is impossible—to keep safely this side of paradise.

When the Panama Canal is opened to traffic it will be the consummation of one of the greatest of American engineering achievements, but it will also emphasize an astounding deficiency, to-wit, that the United States is not a commercial nation. We are great traders between ourselves, but the commerce of the world knows us not. Without a merchant marine which will take a generation to accumulate we really have little use for the canal. No merchant marine can be normally efficient without the improvement of our internal waterways, and the proper equipment of river and canal docks to cheaply handle heavy freight economically in cargo quantities. The rehabilitation of commercial Germany is the lesson for this country in this regard. It is remarkable that much of the best freight handling machinery now in use at the internal ports of Germany was built in this country, where no such equipment for public dock accommodation has ever been installed. It is time this matter be given the kind of attention that ends in definite action.

EDITORIAL CHAT

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Charles L. Ireland, president of the Ohio State Stone Club, and Al Patterson, ex-president and always active member of the executive committee, attended the road convention at Oklahoma City, by appointment of the Governor of Ohio, as representatives of the road builders of that state. It goes without saying that the state was well represented, and we look with interest to such official reports as these gentlemen may make of the progress as exemplified by the meeting in Oklahoma City.

F. D. Meacham, of the well-known cement and brick concern of Meacham & Wright, of Chicago, has again received the endorsement of his political party for member of the Board of Review. Both in public and private life he is the kind of progressive citizen that has made Chicago the wonder of the world. Such is the material that makes cities grow.

S. M. Hall, well known member of the Ohio State Stone Club and secretary of the Broken Sword Stone Company, Bucyrus, recently received a severe shake-up in a Sunday afternoon automobile wreck recently. Mr. Hall was driving his big steamer, having six passengers aboard, including Mrs. Hall and visitors of theirs. The machine skidded and upset without turning turtle, however. All of them had a more or less narrow escape.

W. B. Louer, 115 Monadnock building, Chicago, has been appointed district sales manager for the Lambert Hoisting Engine Company, Newark, N. J., and the Chain Belt Company, Milwaukee, Wis. Mr. Louer will have the exclusive sale of the famous Lambert engines and the well known chain belt mixers. In addition to the above, he will conduct a general contractors' machinery business.

J. H. Spear, of the Washington Brick & Lime Manufacturing Company, Spokane, Wash., was a recent Chicago visitor. He is making a tour of the eastern building material markets for the purpose of investigating the methods of handling materials.

"Uncle Joe" Loughman is quite as famous a figure in the cement world as is another "Uncle Joe" in the world of politics. With Walter N. Cable, who was formerly with Hiram Snyder and since then a distributor of lime, cement and plaster, Joseph H. Loughman has formed the Cable-Loughman Company, with offices in the Marbridge Building, Broadway and Thirty-fourth Street, New York. They will wholesale in carload lots cement, lime, plaster and brick. "Uncle Joe's" geniality and wit as a "raconteur" have won him hosts of friends throughout the United States, who will be glad to hear of this new affiliation for one of the "deans of the cement industry."

John G. Evans, of the Atlas Portland Cement Company, returned to Chicago two weeks ago from the southern part of Jackson county, Ohio, where he spent his vacation on a farm. Farm life gave him the needed rest from business cares in the cement field. It has done him a great deal of good, and he is at it head over heels in business again.

Friends and acquaintances of Ray Holst, son of W. O. Holst, of the W. O. Holst Builders' Supply Company, will be sorry to learn that he is ill with typhoid fever. The latest report states that he is slowly improving, though, and hopes to be about in several weeks.

Somehow that bearing down feeling has disappeared from the insides of business, and there is a brighter, brisker attitude. Don't talk crops; the Lord is attending to that job and probably doesn't need the help of the bald headed gentlemen who decide the financial throbs of this country. When they want to buy they talk dismal, when they want to sell they talk in rosy measures—almost poetry. Unless you are "sitting in" the outside edges of speculative securities the up or down talk will not affect your business. As a matter of fact there is a fine, steady volume of business, and it has varied but very little from the opening of this, a very good building year. In fact, it may be a record breaker in very many sections.

Nothing is perpetual except truth—and good building materials.

Because a man's work calls for the level, the square and the plumb-line, he is not necessarily as square and level as his tools.

Many a man who declares he was driven to drink trotted up to the trough of his own sweet will.

Lazy men are just as useless as dead ones, and take up more room.



E. S. WHITE, VICE-PRESIDENT NATIONAL KELLASTONE ROOFING CO.

E. S. White, vice-president of The National Kellastone Roofing Company, is in Chicago making arrangements for opening general western offices and locating a factory for the manufacture of the Kellastone products. This factory in Chicago will be one of the twelve under construction in various large cities in the United States, and will be in operation within thirty days. Six large factories in the United States and Canada have been in operation for the past twelve months. He has received much encouragement from building material dealers in Chicago, who assured him vast quantities of the Kellastone products will be used, as soon as placed on the market in their territory. Mr. White will be the manager of the Chicago office.

Dan Lynch, of Terre Haute, Ind., manager of the Acme Lime & Coal Company, broke his ankle several months ago, jumping out of his buggy. It is only of late that he has come down to the office of the company without a crutch or cane.

J. W. Landrum, manager of the Terre Haute Coal & Lime Company, got back to his office a short time ago, feeling himself again, having regained his health at Lake Minnetonka, Minn., where he spent the summer months.

E. E. Reiman, of the Reiman & Steeg Company, returned to his home in Terre Haute, Ind., the latter part of September. He spent ten days at the Black Rock House on the Jerusalem Road, two miles distant from Nantasket Beach. He brought his family back with him, who had spent the summer months there.

H. F. Long and George Christian, Jr., of the Marion Dump Wagon Company, Marion, Ohio, came up to the vehicle show in Chicago and reported they were planning to make a large quantity of Marion dump wagons next year.

"Because one good turn deserves another," it doesn't follow that when a fellow "does you dirt" you must throw mud at him.

C. M. Dugan, Jr., general manager of the Kosmos Portland Cement Company, Louisville, Ky., told ROCK PRODUCTS the other day they were shortly going to add four 225 x 8½-foot kilns to increase their capacity to 3,000 barrels daily. They have had a fairly good season, but Sales Manager Timmons says there is need for backbone among the cement manufacturers at the present minute. Charles Horner, Jr., treasurer of the company, spent a couple of weeks in the East recently visiting home folks.

VALUE OF KNOWING YOUR MEN.

A successful contractor whose buildings are wonders of rapid construction, began his improvements by putting himself in the place of his workmen and then he installed just such methods and appliances that cut out all unnecessary lifting or carrying. He also installed every practical aid that would promptly present the material to the workmen in the best condition, and most orderly arrangement for use. His plan is not patented and is well worth the borrowing.

HOW ABOUT CORN STALKS FOR A STEADY DIET?

Charles E. Sciple, the well known Atlanta business man, is just back from Battle Creek, Mich., where he took the famous "close to nature" treatment for several weeks and then "ducked." He says "the treatment was being taken by something like 1,500 people, the doctor put me through such an examination I thought I was being initiated into some secret society. He looked me all over, gave me two or three friendly slaps on the back and chest, which, if properly placed, would have felled an elephant, and then 'slipped' me a prescription which read like this: Wheat bran, one-half peck; corn stalks, one-half bale; hay, one-half bale; fig syrup, one pint. I thought at first he believed me a dealer in grain and was giving me his fall order, but upon investigation found out the prescription was the regular diet of the inmates.

"I stuck it out for three weeks and then informed Mrs. Sciple that we were going to catch the first train to Chicago. I was so hungry I could have gnawed the plush off the seats in the Pullman car. We reached Chicago. Then we took a taxi and drove straight to the Annex. We went into the cafe. I said to the waiter: 'Bring me the biggest, juiciest, thickest and most expensive planked porterhouse steak you have in the ice box, and bring it quick, fixin's and all.'"

Mr. Sciple prophesies there will some day be built up a great industry on corn stalks in the South, the same as they are making all manner of use of cotton seed. Mr. Sciple is a member of the firm of Sciple & Sons, 33-35 North Broad street, Atlanta, Ga., prominent dealers in builders' materials.

THE NEW SOUTH.

With a cotton crop which will bring into the South between \$900,000,000 and \$1,000,000,000, with a grain crop aggregating 1,000,000,000 bushels or more, and with a total value of agricultural products for this year running between \$2,750,000,000 and \$3,000,000,000, the South will have by far the largest income ever received by it from agriculture.

Possibly the magnitude of this year's farm product values in the South will be the better grasped from the statement that they will exceed by at least \$200,000,000 the total value of all farm crops in the United States in 1890.

With such a foundation on which to build, it is difficult to set any limit to the possibilities of the growth of the South during the next ten years. It is entering upon a period of increasing agricultural prosperity, of expansion in all business interests, of rapidity of growth of cities and of a trend of population southward such as it has never known in the past.



The National Builders' Supply Association

Meets Annually.

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Charles Warner, Wilmington, Del. President
Henry W. Classen, Baltimore Treasurer
James W. Wardrop, Pittsburg Secretary

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California. C. J. Waterhouse, San Francisco
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Delaware. Charles C. Bye, Wilmington
District of Columbia. S. D. Lincoln, Washington
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Official Organ, ROCK PRODUCTS

TWELFTH ANNUAL CONVENTION.

James W. Wardrop, of Pittsburg, the live wire secretary of the Builders' Supply Association, recently said that the twelfth annual convention of this association will be held in February, 1911. The exact date and place of this meeting will be announced later.

He says that he is working on a program that will be more practical and more directly bearing upon the every day use of supplies than any other meeting that the association has ever held. A rousing campaign has been undertaken to give all the dealers who have not as yet joined the association a chance to come forward. A special arrangement of \$10 from this time to the next convention for fees and dues has been decided on, and the watch word is "Come on and Lift."

Incidentally, Mr. Wardrop states that the next annual convention will be more fully attended than any other convention, and that an effort will be made to boost business conditions in the builders' supply business. It is certainly up to the fellows who consider themselves to be the live wires to get into the game. A line to Mr. Wardrop, whose office is located in the Frick building, Pittsburg, Pa., will receive prompt recognition and bring full information.

KEEPING WAGON SPRINGS OILED.

Comparatively few owners and users of wagons carrying heavy loads realize the necessity of oiling the leaves themselves as well as the spring shackles. There is more motion between the leaves of a spring than the average person imagines. The lubricating of the leaves will eliminate the annoying squeak that always accompanies a dry spring, and one treatment at the beginning of the season will insure against a squeaky spring the balance of the year. Jerk up the wagon frame until the axle partly hangs by the leaves, then lubricate the leaves thoroughly, using a mixture of ordinary oil and graphite or common graphite grease. After enough grease has been put on to insure a thorough oiling wipe off the excess with waste.

The Mix Stone Company, of Schoharie, N. Y., was incorporated with the secretary of state to deal in all kinds of stone and building materials. The capital is \$5,000 and the directors are: Frank G. Mix, Charlotte L. Mix and Martin S. Mix, of Schoharie.

ST. LOUIS RETAILERS.

St. Louis, Oct. 19.—There are not many contracts for very large structures being let at present, but there are a good many medium to small buildings constantly being contracted for, together with considerable doing in the way of remodeling of old structures. Important additions are, however, being made to the freight and passenger stations of the steam and electric railroads, together with extensive enlargements of their trackage in the city. The city government also is constantly letting contracts for street and sewer work. Large development is going on in the park system of St. Louis. Two extensive and costly viaducts, one of which is under way and the other about to be begun, will call for a large amount of material and furnish employment for a small army of mechanics and laborers. The municipal building, the new cathedral, the public library and the great free bridge, though under way, will, in case of some of these structures, require from two to five years for their completion.

There is no question but that there are some important new enterprises of various kinds, requiring the outlay of large sums for the erection of the requisite buildings, that are being held up until after the November election, which is to settle the question of statewide prohibition. Leading merchants, manufacturers, bankers and other business men are publicly urging that this amendment to the constitution of Missouri shall be defeated. They point out plainly and earnestly that in their opinion it will be disastrous to the business interests of Missouri, and especially so to those of St. Louis, if passed. It is no wonder, then, that many capitalists and others should feel that it would be wise to await the verdict of the people on this question before committing themselves to large investments.

"We are very busy in all departments," said Mr. Hunkins, of the Hunkins-Willis Lime & Cement Company, "which means there is a good demand both in the city and from outside territory, covering a wide area in the middle West, for lime, Portland cement and our various specialties in the building material line. The local demand for sand and gravel is heavy, and there is a steady call for it, which, by virtue of our having a number of large unfilled contracts, some of which provide for a stipulated quantity per month for a year's time, is, for this reason, bound to continue, and will only be interrupted by weather conditions affecting the Meramec and Mississippi rivers, the sources of our supply." Mr. Willis is serving at present on the jury, and since the judicial authorities do not exempt even the busiest man from this duty, Mr. Willis, like a good citizen, is making a virtue of necessity. It is to be hoped the double duty thus put upon him will not prove prejudicial to his health.

A very important consideration in any business is a good location—one that is central and also, in case of bulky and heavy material, close by a railroad. "The location of the warehouse of the Independent Lime & Cement Company," said Manager McDonald, "is ideal in both these respects. We are in practically the geographical heart of the city, and the Wabash tracks are along the rear of our building. We have a roadway through it, so we can load and weigh under cover. Business is keeping up very well with us. We have managed to secure a large number of customers, nearly all, by the way, local parties, and as fast as some of them are supplied, others are ready to receive more stuff—mostly, of course, lime and cement, which are our leading specialties, though we sell a good deal of hard plaster, sand, gravel, etc."

"Business with us just now," said Manager E. R. Griggs' assistant, of the Contracting & Supply Company, of St. Louis, "is fairly good, though it is proper to say we could manage to do more if we could get the orders. We are, of course, certain to get business if there is any use for material in our line with many of the leading contractors, since about forty of them are stockholders in our company."

KILLED IN AUTOMOBILE RACE.

Springfield, Ill., Oct. 21.—LaRue Vredenburg, 28 years old, treasurer of the Vredenburg Lumber Company, one of the leading central Illinois firms in the building materials line, was instantly killed while racing in his automobile at the Illinois State Fair Grounds, October 1. He was an enthusiastic motorist, being president of the Springfield Automobile club and had captured several prizes on that day. In the last, a twenty-mile race with Barney Oldfield and other prominent drivers, he was well up in the running when he crashed into the fence and his car plunged down a steep embankment. It is believed he crowded the fence in order to avert a collision with his closest competitor. He was a popular young man in the business and social life of the city.

SUCCESS

Crowning the Efforts of Secretary Wardrop, the Secretary of the N. B. A., in His Great Work This Year—Many New Members.

The National Builders' Supply Association has been a great influence for good in the past, but its work is just commenced. The country is large and is constantly growing, and therefore the opportunities become greater every year. The recent census shows that enormous strides are being made in population, and building operations have kept pace with the growth.

The builders' supply dealers have prospered in the past, but not like the dealers in some other commodities that have stronger organizations. The need for organized effort must be apparent to every one, and it is not surprising that the retailer in builders' supplies is awakening to his opportunities.

James W. Wardrop, the indefatigable secretary of the National Builders' Supply Association, has been working hard to bring every retailer in this country to realize the golden opportunity of joining in the association movement. That he is meeting with success is gratifying and encouraging. In a recent letter he says:

We are pegging away for all we are worth and trying to pull the results of the first six months' work. Accordingly we have this month addressed our officers, vice presidents and about 100 of the most progressive dealers now enrolled in our membership asking their personal assistance in the work of the harvest mentioned. The majority of our vice presidents are rendering loyal service and we expect that through them very many new members will be added. Our new vice president for the state of Texas has been very active since the last convention and as a result of his work the whole state of Texas has been covered with our association literature regularly for the past five months, and we are now considering a request from that state for a meeting of all the dealers in Texas on or about November 14. During the months mentioned we have circulated about 4,000 prospectus.

On September 20 we had a meeting of all the dealers at Washington, D. C., and expect a number of applications as a result of that effort, which was loyally supported by the present members in that city, viz.: S. Dana Lincoln, Grove Lime & Cement Co. and J. G. Waters & Son Co.

The work in New York City is progressing nicely. The National Executive Committee is called to meet in the city of Pittsburg, October 19, when all association matters will be carefully considered and the date and place of the next annual convention decided upon.

In the special work of the year we have been in touch with the Building Brick Association of America, and in sending you herewith a copy of a letter written by the secretary-treasurer of that organization, together with my circular to the brick manufacturers of the United States. The outlook in the brick field is good and I earnestly trust that these men will measure up to their opportunity.

Another effort introduced during the present month is with the several retail lumber dealers' association secretaries of the United States, and I am sending you herewith a copy of my letter addressed to twenty-eight of these secretaries. The majority of them have answered favorably and the balance are being urged to measure up. In presenting this matter to them we have attached a copy of the circular letter issued by the New Jersey Association, which indicates how that state feels about the National Association. We have also, by correspondence, set to rest the old rumor that the National Association was largely for the benefit of the "big fellow," and I think we have proved conclusively, from the records of the work of the National Executive Committee during the past two years, that this association is for all the dealers, that big and little are included, and that very much of the effort of the past two years has been put forth to secure the support and influence of the men who are called small dealers. This is again evidenced by our circular to the Retail Lumber Dealers Association Secretaries and further emphasized by the work to organize the states and districts so as to include every dealer, regardless of the size of his business, for every one of them should support the efforts of the National Association in their behalf.

The work of your paper in setting forth the necessities of the day as well as the opportunities of co-operation has had its effect, at least it seems so to me. There appears to be a general awakening among the dealers as to the need of getting together, not only in towns and cities and states, but the gathering up of these important influences in the larger and more unifying work of the National Association, and we confidently look forward to many additions to our roll and an increased interest in every field. To give you an example of the interest of the Retail Lumber Dealers' Association Secretaries, I will say that the secretary at Spokane, Wash., has taken hold in good shape and I am today forwarding to him, at his request, 1,000 copies of my circular, "The Elimination of the Middle Man," together with 1,000 copies of the New Jersey Association letter, which he proposes to send out, with a copy of my letter to him, to the dealers of the six states represented by his organization. With the present plan of the National Association, supported by the retail lumber dealers' associations, through whom we are trying to reach the lumber dealers who carry builders' supplies as a side line and, perhaps, cannot afford the cost of direct membership in the National Association, supported of course by the sincere efforts of the state secretaries and the several executive committees involved, I believe that we are on the edge of a better and more influential organization of the builders' supply men of the country than ever before.

The members of the National Executive Committee have carefully worked out their plan of campaign and have done everything in their power to bring the benefits of co-operation to every man in the business; the secretary has tried to do his part; the several vice

presidents have tried to do their part, and from now until the next convention it is up to the dealer himself, i. e., he should stop and ask himself if there is any real need of the active effort being put forth in his behalf and, to my mind, there can be only one answer to that question. The next question he wants to ask himself is "What am I doing to help in the work?" and to that question he will be able, on the one hand, to congratulate himself that he is enrolled and is doing his share, or, on the other hand, to make up his mind that he will do his share and enroll at once. Then the next question he should ask himself is, "Of what benefit is my membership to the cause?" If he is a live one and heeding the instructions and requests of his officers he will have another congratulation coming to himself or, if he really means business, he will decide from this day forth to be an active member both in word and deed and to spread the good news among his friends in the business and endeavor to secure their support and influence. When this is done he will find that there is no need to ask himself the question, "What benefit is the National Association to me?" for with his enrollment and his active interest and support the work will be successful and all the benefits of this success accrue to him right in his own field, and the evidence and force of this statement is fully sustained in the testimony of every live dealer and every town, city and territory where the man measures up to his opportunity and at least helps others to help him to work out his own salvation. And anything that you can and will do to emphasize the importance of his doing so will be very much appreciated.

Up to the present time we have secured some thirty-two new members. As many more have signified their intention to come in, while others who have felt a little "lukewarm" and desired to withdraw have reconsidered this desire and have generously renewed their allegiance and determined to "stand by the ship." In addition to these, our work certainly ought to merit the favorable action of hundreds more of the dealers who have been addressed during the year, and it is because you not only reach these but thousands of others that we are asking you to emphasize the matter at this time.

Letter to Brick Manufacturers.

In conference with Mr. Parker Fiske, Secretary-Treasurer B. B. A. of A., the writer cleared up a seeming misunderstanding as to the relationship existing between this association and the Cement Manufacturers, and of which, I understand, you have been fully advised.

The writer was present at your January meeting in Pittsburg (in part), and knowing of your progressive plans there adopted, he was in a position to impress Mr. E. T. Knight, of the Bradford Pressed Brick Co., at our Chicago convention, of the position of the Dealers' Association, and to offer Mr. Knight the fullest opportunity to discuss "Brick" upon the floor of the convention.

Mr. Knight measured up in good shape, was warmly received and encouraged by the officers of the National Association, and is personally convinced of the larger opportunities open to the brick manufacturers through close affiliation with the dealers, so much so that his company has joined our association, and was followed by the Kittanning Brick & Fire Clay Co., both of whom are now enrolled.

Did you ever stop to think of the possibilities of a close relationship with the building supply dealers of the United States through the National Association? We have an active membership in twenty-eight states, a vice president in each of these states, nine leading dealers of the country form the National Executive Committee and these work out the policy of the association. We also have a monthly publication to "preach" these policies.

The cement manufacturers have as much to do with the making of our policies as the "Sultan of Sulu," nevertheless, while they have no part in the making of policy, they are wide awake enough to see the possibilities of a close relation, and for two or three years have taken advantage of this opportunity to an extent that seems to make you brick manufacturers think that—"they run things."

I have only admiration for the cement men and for their progressiveness. They are on the job all the while, and believe the results well worth all the cost and more, and I wonder if that spirit and the result have not got something to do with the condition that nerved you to action in January last.

Every opportunity open to the cement manufacturers is open to the brick manufacturers, no more, no less, and if you adopt a shortsighted policy and ignore your opportunity, don't blame anybody else for what happens to you!

For three years we have been sincere in every hope held out; we proved this sincerity just as soon as one of your number had the courage to appear; we've made it as plain as day to your secretary, and now we are trying to make it plain to you! For your sake, wake up! We cannot make you join, nor can we make you support this work. If we could, we would. All we can do is to put it up to you strong and plain. You must do the rest!

The brick manufacturer who holds "two-dollars-per-month" up against his eyeball, and refuses to listen to reason, simply hides the possibilities and opportunities we present, and leaves a clear field to those whom you are well able to match in every endeavor for success.

Look over the enclosed list of members, especially the "honorary list," see the cement manufacturers lined up one after the other. Do you think they are there for their health? Not on your life; they are there to make things happen for cement! They are there to keep "Brick" in the background, and to keep you asleep!

Why is there more said about cement in our conventions than about brick? Because the cement men are there and the brick men are not there! Why is it that the brick manufacturers do not "get in" and into everything that affords the opportunity for advancement of their cause, and every time a man says "Cement," have half a dozen present to shout "Brick" and write it in the minds and hearts and memory of the men who, perhaps, meet more people who build houses in one year than anybody else in two. Men who are part of their communities, who know the people personally, who are together day in and day out, and whose recommendations go a long way with their friends, when the question of building comes up—Why?

Is there anything in your claims for brick? Do you really believe it? Are you willing to back up your belief? If your claims are right, if your belief is more than a wish, if you're willing to back up these, then you'll sign the enclosed blank and send me a check for ten dollars to pay your dues up to the next convention (September 1 to January 31, five months at \$2). You'll



GUESTS OF ROBINSON CLAY PRODUCTS COMPANY.

commence to plan agreeable to my conference with Mr. Fiske; you'll send a delegation to the next convention; you'll accept my invitation to put up the "best man you've got" to talk "Brick vs. everything else!" and you'll thank me for jabbing at you! Any brick manufacturer who accepts this invitation and attends the next convention, who will tell me, at the close of the convention, that there's "nothing in it," may have his ten dollars back on the spot, and I'll go on record before the convention as having made you that offer! Now then, it's up to you! If you have a prejudice of any kind, name it, and give me a chance to answer; an honest discussion may clear the atmosphere, do justice to both sides, and bring us closer together, while keeping still may work an unintentional injury which could be avoided.

Do you mean business, and will you measure up? Kindly let me hear from you. Very truly yours,
(Signed) JAMES W. WARDROP,
Secretary.

CLEVELAND RETAILERS.

Cleveland, Oct. 20.—Retailers in this city report an exceedingly busy month. Building supply dealers especially have been busy making deliveries on many projects which are being rushed to completion. While no very large orders are reported there has been a heavy run of smaller projects which have required much material. Splendid weather has helped the building contractors to push ahead many of their structures, getting them under roof before the wet weather sets in in earnest.

The Cleveland Builders' Supply Company has secured some nice orders during the past month. It has contracted to supply 30,000 shale face brick for the annex to the New Amsterdam family hotel and also for several big school projects now under way. Cement orders have been steady and some good deliveries are being made. The same is true of the plaster business.

The Queisser Bliss Co., builders' supplies, has had a busy fall season. One big order just closed by the firm was for 250,000 shale face brick for the new grocery warehouse for the William Edwards Company. The firm has also secured several choice terra cotta orders recently, including one for the new 12-story Athletic Club building. R. L. Queisser, head of the company, who is a major in the Fifth infantry, got home a few days ago after over a month's absence from the city. For several weeks he served on strike duty during street car riots at Columbus, O. Subsequently he accompanied the Fifth regiment to its camp in Indiana.

At the office of the Lake Erie Supply Company it was reported that orders were rolling in quite briskly. E. A. Ellis has been engaged as salesman for the company. He will be in charge of the brick department. He was formerly in the employ of the Ohio Clay Company, having been succeeded by Bert Graham, who is secretary of the Ohio Builders' Supply Association.

Several of the big supply companies here are already beginning to plan exhibits to be placed in an Ideal Homes exhibition to be held in the Central Armory, this city, next May. It will be one of the largest and most important shows of this character ever attempted in America, showing homes in course of construction from foundations to finished product and exhibiting every line of building supplies now for sale.

Very Pleasant Outing.

Every year employees of the Cleveland Builders' Supply Company are the guests of the Robinson Clay Products Company at Akron, O. On the after-

noon of Saturday, October 8, the usual outing for this year was held, the Cleveland party making the trip in a big special interurban car. It went first to Lakeside, where a large launch awaited the crowd. The visitors were met by a number of the officers of the Robinson Company and personally escorted up the lakes to State Mills, where an enjoyable time was spent. A big dinner was served and many good things stowed away. The Cleveland Builders' Supply Glee Club was along and rendered some home-made selections. Speeches were made by Messrs. Rossiter, Angel and Rowse. On the way home Miss Bender, an office employee of the Cleveland Builders' Supply Company, tumbled into the lake just as the party was about to board the boat. An heroic rescue took place, in which Messrs. Mitchell and Straus figured conspicuously as heroes.

DETROIT RETAILERS.

Detroit, Mich., Oct. 20.—Building operations are being carried on at a very rapid rate in Detroit, and because of this producers and dealers in cement products find a very active demand from contractors. Fair and warm weather has prevailed through the fall months, and indications are there will be continued favorable building weather through the remainder of the month. If such is the case Detroit and Michigan will experience a record building year. In fact, the year thus far has proven a record-breaker. For the first nine months, ending September 30, the aggregate gain this year ran nearly \$2,000,000.00 more. There were four months in the year that dropped below the \$1,000,000.00 mark for permits, but several other periods established a record, thereby bringing up the total. During the first nine months in 1909 the aggregate was \$10,250,810.00, and the first nine months this year showed \$12,113,365.00. This same favorable showing is continued in the matter of dwellings, the first nine months showing 3,354 permits, whereas 1909 showed 2,620. The only particular in which the first nine months in 1909 had 1910 beaten was in the matter of additions. Contractors in different parts of the city say the closing three months of the year will easily equal the mark set last year, and with this 1910 will prove a record season for Detroit, as 1909 had established a mark.

CONCRETE COAL BIN.

In order to avoid the dangers of fires, which have caused much damage to the supply of coal each winter during the past few years, a concrete bin has been constructed at the Ohio State university, and will be ready soon to be used as a storage place for the thousands of tons of coal that will be used.

For several years the coal has been piled in large quantities near the power house in the open air, and combustion has resulted, destroying many tons. With the new bin it is hoped to do away with all risks.

PREVENTING SWEATS OF HORSES.

About the time the coat is to be shed, some horses are more liable than others to break out into sweats after work, even when they are in good health and the work is light. To prevent this allow a larger feed of oats, and add a pound or so of split beans, until the new coat is set. Keep a lump of rock salt in the manger and give two drachms of powdered sulphate of iron in a little mash every evening.

CHICAGO RETAILERS.

Chicago, Oct. 21.—An active demand for builders' supplies was felt among the retail dealers this month. The first week in October business was slow, but soon picked up, and every building material yard is keeping its teams busy. Building operations are starting up encouragingly in many sections of the city. Contractors are figuring at the present time on much work and believe that there will be more building done this fall than was anticipated two months ago, although it will fall short of expectations early in the year. While retail dealers in general are satisfied with the volume of trade this month, there are a number who report that this month has been one of the best they had this year. Conditions with the retail dealer of builders' supplies here are good and prospects bright for good business till the bad weather sets in.

The Wisconsin Lime & Cement Company was busy this month. Every one of its nine yards in various parts of the city were active in hauling building material to jobs, as much so as in September. The company reports business becoming more active in the last two weeks, and is satisfied with present conditions.

Business apparently was as brisk this month with the Knickerbocker Ice Company as last September. Conditions are fair and business is said to be more lively than it was the fore part of October.

"Business is slowing up in this section of the city," said Otto Frerk, of Henry Frerk & Sons, at 3136 Belmont Avenue. "We have just commenced feeling the tightness of money this fall. Likely this is one of the reasons that there is not much building done around here. But conditions do not warrant the statement that business is dull. All of our seventeen teams are kept busy hauling material, but they could do more. We are satisfied the way things are moving."

N. J. Druecker, of N. J. Druecker & Co., at 2628 Artesian Avenue, stated: "Business is good this month; in fact, it is one of the best months we have had this year. There is not much building going on in this neighborhood. We haul a great deal of material outside of our territory and are keeping all our teams very busy. The outlook is all right."

"We are every bit as busy as last month," said J. J. Croake, of J. J. Croake & Co., "and for the past ten days business has taken quite a spurt. Territory around us is rapidly building up. Quite a large number of two and three story flat buildings, stores and small residences are in process of construction. Collections are hardly in keeping with our fine October weather. We assuredly have nothing to kick about this fall."

Mr. Koch, of Farley, Koch & Co., said: "There was a time the fore part of this month when business was mighty slow, but it has been picking up at a great rate the last two weeks. Our teams are busy, building operations in the territory west of Fortieth Avenue and north of West Kinzie Street are starting up, and conditions are O. K. except collections, which are poor. The outlook is good for the immediate future."

A. L. Withal, of the Lake Building Material Company, said: "Business has been peculiar this month, going by jerks and fits. Every few days it has threatened to let up, and just when we believed our teams would have nothing to haul, something in the shape of a good job would turn up and keep us going lively. We have no complaints to make. Trade is now picking up, there is more building going on in our territory than we expected a month ago, and we cannot see dull times ahead of us. It looks to us that we will have a good fall trade, but perhaps not as brisk as last year."

It is reported at the yards of the Standard Material Company that business this month was looking up. Their teams are all employed hauling material to jobs, and last week they hired some extra teams to help them out. Several big jobs opened up lately in flat buildings, stores and churches. Activity in building operations this month has become noticeable in the south division of the city, but perhaps not to as great an extent as was expected two months ago, for the reason that loans are harder to effect. Contractors, however, feel that there will be much work done this fall and are doing much figuring on many plans which have made their appearance since the middle of October. Business was found as good and perhaps better than was expected, there being no falldown in any sense. The Standard Material Company feels that there will be a fair business this fall.

The Tuthill Building Material Company has had every team this month in active service and reports business picking up lively for the past two weeks, better than it was expected to be in September. Activity in building circles promises to hold up

well till snow flies, and while it is not believed that business will be as brisk as last year this time, it will be good.

W. N. Carter, of the Chicago Contractors' Supply Company, could not be questioned the other day about business for nearly an hour, being kept busy answering telephone calls. These calls were all for hurried demands for material to be delivered on jobs in various localities on the south side. "You have seen and heard what is going on," he said; "sorry to have kept you waiting, but it was unavoidable. Need I tell you that business is picking up? I have gone through this routine every day for the last two weeks, and it has kept us jumping to get the material to the jobs as fast as needed. Building operations have again become quite active in our territory, more so than was expected last month, but probably not as much as was anticipated for the fall months, last spring. Yes, business is all right this month."

"We are busy this month; demand for cement and all builders' supplies is good," said H. O. Heitmann, president of the Union Coal, Lime & Cement Company, whose yard is located at 5840 Ashland Avenue. "All our teams have all the hauling they can do. There is more building done around here than was expected two months ago. Contractors tell us they are figuring on a lot of plans and expect to have plenty of work to do till cold weather sets in. Indications point to an active fall, but probably will fall short of what was anticipated four months ago. However, we are satisfied with present conditions."

"Business was rather quiet up to a week ago," said J. B. Coates, of the Crescent Material Company. "It is now commencing to show some life. We got some good jobs lately. Contractors are



WAREHOUSE SITE OF FISCHER LIME & CEMENT COMPANY UNDER CONSTRUCTION.

feeling more cheerful, figuring on much more work now than they expected. We are keeping fairly busy right along and can see fair prospects ahead."

The Circuit Supply Company, located at Eighty-third Street and Escanaba Avenue, found business the first week this month rather slow, but not bad. Since then conditions have become decidedly better. There is a noticeable amount of building now in progress in the Cheltenham district, and contractors are said to be doing quite a bit of figuring on plans for cottages and small residences. All of its teams are reported to be busy hauling building material to jobs in the various localities in their territory.

"Business is fair this month, but nothing extra to talk about," said Charles P. Thompson, of the Calumet Coal & Teaming Company, whose yards are located in the South Chicago district. There is not as much building going on here as last year, although we have hauled quite a quantity of building material to Burnside, showing activity in building circles there. The month's business for October has by no means been bad."

"We have had an exceptionally brisk demand for building material in September and this month," said T. M. Tobin, of the T. M. Tobin Bros. Company. "In fact, they have been the best months we have had this year. We sold half a million of brick in September, and all that goes with it. We find conditions good and are satisfied, fully so, with the business we have done this year and are doing this month."

"Business is easing up, rather quiet, and not as much doing now as last month," said A. L. Halleman, president of the Templeton Lime Company. "At the same time it is still several removes from being dull. Our teams have been kept busy. There is quite a good amount of building going on west and north of Homan and Grand Avenues, though not as much as was expected earlier in the year."

James E. Lill, at Bryn Mawr Avenue and the elevated tracks, in Edgewater, said: "Business is

all right this month; the demand for cement, plaster, lime and all building material is increasing. Contractors are doing much figuring of late on plans, and report that money is not as tight and loans easier to get than two months ago. A number of large flat buildings, besides residences and stores, are going up in this part of the city."

"It is a little quiet this month, but business is commencing to become more active," said J. M. Bower, manager of the Devon Avenue and Sheridan Road building material yard of the Waukesha Lime & Stone Company. Building operations started up late this season, but now that they have started, show considerable life. Contractors are cheerful and seem to believe that there will be more work for them this fall than was promised by conditions during the summer months. Our teams have all the hauling they can do comfortably, and we are satisfied with conditions existing for the present."

"Business was real good for September and good this month," said M. A. Staley, of the M. A. Staley Company. "In fact, the last two months were the best we had this year. Some good big building jobs have turned up lately, and there is more building going on in this territory than expected last summer. Contractors are doing much figuring and prospects, I consider, are fair."

PANAMA CANAL PROGRESS.

Steady progress in the construction of the Panama Canal is shown by the monthly report of Chief Engineer Goethals to the Isthmian Canal Commission. The total excavation for the month of September was 2,687,088 cubic yards, against 2,813,462 cubic yards during August.

There were twenty-five working days in September, against twenty-seven in August, while the rainfall in September was 12.03 inches, against 11.61 inches in the previous month. The average daily output in September was 107,484 cubic yards, against 104,202 cubic yards in August.

The amount of concrete laid during September was 149,977 cubic yards, 146,553 cubic yards in August, 697,495 cubic yards of fill were placed in dams during September, against 652,514 in Sep-

FISCHER'S FINE WAREHOUSE.

A view is presented of the preliminary work on the new warehouse of the Fischer Lime and Cement Co. at Memphis. This building will stand along the Southern Railway and will be very complete in detail. It will be 30'x300' and will be built entirely of reinforced concrete.

TERRE HAUTE RETAILERS.

Terre Haute, Ind., Oct. 5.—There is not much activity in building circles here this fall. However, more than the average amount of remodeling of business blocks, with some new buildings and two churches, is keeping the retail builders' supplies dealers busy. They are content with the volume of trade they have done this year, but state that the margin of profit, especially on Portland cement, is too low. It is said that cement in Terre Haute is selling at a lower price than in any other city in the country, and it seems that the fault lies in the fact that there is no coöperation among the dealers. In other words, too much cutting of prices to secure business. There is much talk of heavy building operations soon to be commenced. Among these it is said that the Indianapolis & Eastern Traction Company contemplates building a new station and office building between Eighth and Ninth Streets and Main and Cherry Streets, to cost \$1,000,000. The company commenced laying tracks, this fall, to the site of the new station, and will begin construction on the building next spring.

A lease has been closed by the Terre Haute Coal & Lime Company with the "Big Four" railroad on property at Fifth Street. This property will be immediately improved by the Terre Haute Coal & Lime Company with a permanent building to be used for storing building material; a double driveway of Kellastoro paving will be laid through these grounds, and when completed the company will possess one of the most up-to-date yards in the country. There are three yards on this property, held by the "Big Four," only a block or so apart.

J. W. Landrum, of the Terre Haute Coal & Lime Company, said: "Business has not been as good as last year in September. Business, however, is picking up and a good fall trade is in sight. There is more than the average amount of remodeling of business houses going on; the Christian Church is putting up a large structure; the school board contemplates erecting a structure for the North End High School; the school board has now under construction three school buildings; a new Catholic church is being erected, and the rebuilding of the St. Joseph's Catholic Church is progressing satis-

factorily. We are selling large quantities of the standard brands of Portland cement, plasters, lime and builders' supplies, but altogether obliged to sell on too low a margin of profit."

E. E. Reiman, of Reiman & Steeg Company, said: "Business was pretty fair last month, but not quite up to the mark of last year. There is not much building going on here this fall. However, there is more than the usual amount of remodeling of business blocks, a new church or two, and small residences. This work has caused a fair demand for building material and we have sold respectable quantities of Lehigh Portland cement; Huntington and Delphi lime, some of its hydrate; plaster, the products of the American Cement Plaster Company and the Acme Cement Plaster Company; crushed stone and sand, which we handle in carload lots. The demand for sewer pipe of the American Sewer Pipe Company has been slow, as there is no city work in progress now."

Bray Brothers, succeeding the Kennedy-McGinnis Company, located at Twelfth and Locust Streets a year ago, are both young men of energy and ability. They are doing well and are building up a profitable business. G. D. Bray said: "Business was fair last month and is now picking up rapidly. There is quite a little building going on east of us. The demand has been good for Atlas, Lehigh and Universal Portland cements; the Plymouth Plaster Company's plasters; lime of the Ohio & Western Lime Company in bulk and hydrate, and William E. Dee's sewer pipe. These are the materials we handle. We also make and have a good demand for our concrete blocks, the average output being 2,500 blocks monthly. They are mostly used for foundations."

"Business was only fair last month," said G. C. Wright, auditor of the Acme Coal & Lime Company. "It is picking up nicely now and it seems that the demand for the building materials we handle may prove as good as last year. We are delivering to jobs Universal, Atlas and Speed Portland cements, United States Gypsum Company's plasters, sewer pipe from William E. Dee and Louis McNutt. There is a fair demand for hydrated lime of the Ohio & Western Lime Company. Most of the lime we handle in bulk from Huntington and Delphi, Ind. We do not handle crushed stone and sand except in carload lots." Dan Lynch is the manager of this company.

BALTIMORE RETAILERS.

Baltimore, Md., Oct. 17.—With no change in the cement market and very little difference in the demand for other materials in the fireproof building line, market conditions in Baltimore have varied only a small margin during the past month, but all the dealers report good business and say they are selling large quantities of material. The large buildings in the center of the city are well under way and the teams of the building supply concerns are seen on the streets more than since the time following the big fire of February, 1904.

The new Emerson Hotel, the Fidelity Building, Pennsylvania Railroad's new Union Station and the Munsey Building are the big jobs which are attracting public attention in Baltimore, the total cost of the structures when complete to be over \$4,000,000.00. They are in position now where the floors and interior work is being installed, and as a result the quarries and cement people are reaping a harvest.

The concrete work of the big hotel which will be in a way similar to the new Blackstone Hotel in Chicago, is up to the twelfth floor. Within three weeks the floors will be finished and work will start on the interior. The walls are now up to the third floor.

Leading dealers say the prices are good and that there are no prospects of a change in the next few weeks. More work is in progress or proposed and it looks as if Baltimore dealers will be busy for some time to come.

Some of the largest lime contracts in years have been landed by dealers in this city during the past month, and as a result they are busy handling the big orders. Robert S. Green, one of the largest supply dealers in the city, has been awarded the contract to furnish Rocky Mount lime for the new Emerson Hotel and the Munsey Building. The hotel job alone will require 500 tons.

The company has been doing a rushing business lately and also reports receiving contracts to furnish Edison cement for the new Hochschild-Kohn Building to cost about \$200,000.00, and the new pumping station for the city's high pressure pipe line system. Prices are good, said Mr. Green, and conditions as a whole are as good as could be expected.

LOUISVILLE RETAILERS.

Louisville, Ky., Oct. 15.—Though building in Louisville last month showed a considerable falling off, those in the supply trade have been keeping busy nevertheless. This simply goes to show that statistics are unreliable things to depend upon, as far as their immediate application to conditions is concerned. For instance, dealers in fire clay products, including drain pipe and flues, who have been complaining all summer about business, are now rushed, the construction work all over the city having gotten to a point where their products are required.

That is the way it has happened with the other dealers. Though September statistics showed that little new work was commenced, there was a sufficiently large volume of construction already under way to absorb an immense amount of materials, and as a result dealers have been wearing 24-hour continuous smiles. (This is a newer and better way of saying it than "the smile that won't come off.")

As to September building, 206 permits were taken out for a total of \$197,250.00. This was a drop of over 50 per cent compared with last year, although the number of permits then issued was no larger. The difference was that several big buildings appeared in the permits a year ago, while the average structure arranged for last month was a little fellow.



HARRY P. BOYD, SECRETARY AND TREASURER
NATIONAL BUILDING SUPPLY CO.,
BALTIMORE, MD.

Plans have been announced for the biggest building erected in Louisville in several years. It is the 15-story Caldwell building, which will be built at Fifth and Jefferson streets. For a time it was thought that plans for this had fallen through, but they were brought up again and definite decision reached to go ahead. Work will begin in February. The cost of this structure will be close to \$750,000.00.

Dealers have been much interested in recent announcements of the Belknap Hardware & Manufacturing Company, which has been doing a great deal of exploitation in the interest of Crusader roofing, for which they have secured the agency. This is a Trinidad Lake asphaltum variety, and with the vigorous consumer-dealer advertising that the Belknap company is doing it will undoubtedly prove a success.

John L. Wheat, of the Union Cement & Lime Co., is thoroughly optimistic over the trade situation. He said that the company has had one of the most successful seasons in its history, and while the demand for cement and lime is beginning to decrease now, there is still plenty of work going on. He expects prices, which have been comparatively high all summer, to slacken a little before long.

"I am one of those who were disappointed by the census returns regarding Louisville," said Mr. Wheat. "I have lived in Louisville for fifty years, and have watched the growth of the city, and to say that we developed less in the last ten years

than in any of the decades preceding is a statement that will not hold water. Undoubtedly we have more than 223,000 people."

Edward Streicher, of the National Roofing & Supply Company, has found an unusually good demand for a Cabot specialty, a quilting which is intended for use under either shingle or composition roofs for insulating purposes. He said that in bungalows, which are becoming very popular here, it has proved especially valuable, rendering the upper story, which ordinarily would be too hot or too cold for use, available. There is a good deal of roofing work in sight, he said.

J. B. Speed & Co. are doing a good business in cement, the demand remaining heavy and prices strong. Not only is the local demand good, on account of the number of reinforced concrete jobs that are under way here, but all through the Louisville territory sales have been well above the average.

Burrell & Walker are doing an improved business, the demand for drain pipe having been considerably stimulated during the past month. This is largely due to the advance of the season, which has made the use of pipe necessary. They expect to be very busy from now on.

SAN FRANCISCO RETAILERS.

San Francisco, Oct. 18.—While the local building material business in general is fairly satisfactory, there is no prospect of any great revival of construction work in this city. The building contracts let in the past month do not compare very favorably with previous records, and generally speaking the class of buildings going up in the business district are of a much cheaper character than was the case a year ago. Of course, there is a lot of concrete and plastering work on the apartment houses which are now the principal feature, but the most encouraging feature for the concrete business is the number of large warehouses which will be built of this material in the near future. Contracts have already been let for some of these structures, while the architects are about ready to take figures on a number of others. The situation is extremely satisfactory at most of the outside towns, where work is being rushed on buildings and improvements in order to get everything finished up before the heavy rains begin. There is an extremely heavy demand for all kinds of building materials in the interior, cement and crushed rock being especially active.

One of the local buildings for which contracts have been let is owned by the University of California, and will be occupied by a wholesale paper house. The reinforced concrete work, amounting to \$51,636.00, was awarded to the Standard Construction Company, and the plastering, \$2,585.00, to A. Knowles.

The Southern Pacific Railroad is having plans figured by local contractors for a reinforced power station in Alameda, which is expected to cost about \$30,000.00.

A contract has just been let for the large reinforced concrete warehouse of the Deere Implement Company in this city. The job went to J. R. Bowles at a price in the neighborhood of \$350,000.00. Work was started a few weeks ago on a similar building for the same company at Portland, Ore., to cost about \$200,000.00, the Leonard Construction Company having the contract. This building will rest on a wooden piling foundation below the permanent water line, on which will be placed concrete caps. An interesting feature of the interior construction is the absence of beams and girders, the ceilings being of the flat slab type of construction, supported by concrete columns.

The H. Raphael Company, of Los Angeles, is putting up a large manufacturing plant, two buildings of which are now under way. They will each cover an area of 70x100 feet.

NEW OKLAHOMA SUPPLY COMPANY.

The I. U. Smith Builders' Supply Company, dealers in building materials, specialties and concrete supplies, has just opened up at Enid, Okla., with a complete stock on hand. They are in the market for all supply catalogues possible. The company was formerly engaged in the lumber business at Fay, Okla.

The N. E. Palmer Company has been incorporated at Tennyson, Ind., with a capital stock of \$10,000.00. They will manufacture and sell drain tile, brick, cement, etc. Incorporators, N. E. Palmer, L. Hobbs and Geo. W. Byers.

The S. S. Palmer Company, incorporated at Manhattan, to manufacture and deal in plaster, cement, terra cotta, etc.; capital, \$5,000.00; incorporators, Samuel S. Palmer, Wm. Rose, Jr., Harry W. Smith, all of 39 E. Forty-second street, New York City.

THE TWIN CITIES.

Minneapolis, Minn., Oct. 21.—The building season has begun to show considerable decline, due to the more conservative conditions which are prevailing in the money market and also in commercial circles in general. The Northwest is in better shape, relatively, on such a proposition than many sections, for there is more money available and less speculation to tie it up than in some localities. The grain crop damage of the past season served to bring on a general conservatism, which helped to emphasize the lesson which bankers have been urging, of less speculation. The net result is the holding up of a number of projects which had been in view for this fall. They will, some of them, at least, be taken up in the spring, but a winter of easing up from the high tension will allow a more complete adjustment of affairs, and investors and others will know better where they are.

Despite the tendency noted, there is fair inclination to take up moderate sized building, and there are some fairly good sized projects also in view. It seems more than likely that the early spring will see a number of large projects taken up.

It is interesting to note that the form of construction which is most favored in the Twin Cities is more and more reinforced concrete. Although the opponents of that form of construction have been arguing that it was bound to lose out in short order, the fact remains that there has been much more reinforced concrete construction in the Twin Cities than ever before.

Prices on materials have held steady during much of the summer. During the early summer, when things began to look bad, there was some uncertainty in prices on cement, but this was followed by a reaction, and for the past two months the demand for cement has been more active than for a long time. The fall usually includes a free demand for cement for finishing work, as well as for a lot of sidewalk, curb and other street work. The prospects seem to be for a good demand through the Northwest for cement for street work. There are a number of interior points which have a large amount of paving in view for next season, which will require considerable cement for the base. Concrete paving itself is also being experimented with at a number of smaller interior points, and the reports are quite favorable.

The St. Paul Builders' Exchange, in connection with the St. Paul Institute, has started night classes for instructing boys in shop work. A course of seven departments has been provided, covering elementary architectural drawing, intermediate architectural drawing, advanced architectural drawing, sheet metal work, joinery and cabinet work, electricity and mechanical drawing. These are included in two terms of ten weeks each, two evenings a week, two hours to a session. Additional courses will probably be added in plumbing and steam fitting. Other courses may be added as the work develops. At present it is in an experimental stage, and there is not room for more than one hundred students. Over three hundred made application for the course, but could not all be accommodated. It is hoped that this will develop into a general trades course of education, whereby boys may be trained in the arts and mechanical work, instead of leaving school at the fifth or sixth grade, to drift around idly or go into unskilled work, when skilled work is crying for more workers, while unskilled is filled with poor workmen, who might be good artisans had they only been trained.

Minneapolis building permits for September showed a slight gain over the total for September of 1909, the comparison being \$1,170,305.00 this year, against \$1,125,980.00 for the same month of a year ago. For the nine months of the year the total is \$11,826,620 this year, against \$10,145,020 last year, a gain for the three-quarters of the year of over a million and a half.

St. Paul showed a loss in permits for September as against a heavy month of a year ago, having \$664,763.00, against \$1,036,736.00. For nine months of the present year the total is \$8,045,591.00, a loss as compared with a year ago, but a gain over two years ago. St. Paul had a very heavy total last year, which makes the comparison this year a difficult one.

The devastating forest fires in northern Minnesota which did such terrific damage, including a loss of life, will unquestionably make the rebuilding which is already being planned turn more to fireproof construction. Wherever there is sand available, concrete blocks will receive considerable attention in this respect. Concrete blocks have been used more in the country, proportionately, than they have in the larger cities, and this rebuilding period may include quite a demand for them.

F. W. Ward, of Elmore, Minn., has recently completed a model for a cement bridge, which he regards

as superior to anything in that respect that he has ever seen.

W. H. Kiltin, a sidewalk contractor, of West Duluth, Minn., has invented a concrete tie which he expects will overcome the objections which have been raised against other forms of concrete tie which have been offered on the market in the past.

The department of the building inspector of St. Paul, is about to print a new edition of the new building code of St. Paul. Fakirs have been soliciting advertisements and collecting money* for them for an imaginary building code, and to head off this sort of thing, the department will print the work itself. The building department is also seeking information from those who were taken in by the swindlers, as a means of following them up and detecting them if possible. It is hoped that they may be caught and punished.

NAPOLEON RETAILERS.

Napoleon, Ohio, Oct. 15.—Building operations in this city have been fully as active as last year. Builders' supplies dealers here have all done a satisfactory business, and all report a greater demand for building material than last year. Especially has this been found the case concerning cement. The farm districts tributary to Napoleon have surprised every dealer this year by an unexpected larger demand for cement than ever experienced in the past. It was believed last year that the farmer had gotten to the end of his improvements in which he used concrete, but dealers have awakened to the fact this year that the farmer has only begun to realize where he can use cement to make his farm more attractive and profitable in improvements now made possible by its use.

Mr. Johnson, of Dietzen & Johnson, stated that business had been excellent all year, having had no quiet times during the summer months. He continued: "Fall business looks very encouraging. Farmers are buying more cement this year than ever before, and are buying it more steadily. Lots of cement is used in the farm districts for floors, hog pens, foundations for buildings, etc.; in fact, there seems to be no end to the improvements they are making on the farms for which cement is needed. For instance, we sold concrete blocks and ornamental work for twenty-five porches this summer, which in former years would have been built of wood. We make concrete blocks, concrete bricks, concrete porch work, etc. We have sold large quantities of U. S. Gypsum Co.'s and Grand Rapids plasters. We are selling more hydrated lime this year than usual, although our trade at present is mostly barrel lime of the Ohio & Western Lime Company. The hydrate of this company is becoming very popular, because masons are beginning to understand its merits and advantages. We handle no lime in bulk. We have promise of selling larger quantities of cement this fall than usual. Our customers like the Lehigh, the Wabash and the Edison Portland cements, which we handle. There is an active demand for sand and gravel, which we get out of the Maumee river here. We have sold more sewer pipe, fire brick and fire clay of the Robinson Clay Products Company than last year. We buy most of our builders' supplies from the Woodville Lime & Cement Co." Both members of this firm are active and energetic, building up a large and profitable business.

John Leonhart operates a big lumber mill and has a large lumber trade, but he also handles extensively Diamond Portland cement. Barn floors, porch floors, foundations and walks constructed of concrete on farms eat up a large percentage of the large quantities of cement he sells every year. He says there seems to be an increasing use for cement on farms every year. Farmers are buying and using more cement this year than ever before. He sells large quantities of American Gypsum Company's plasters and Ohio & Western Lime Company's lime in barrels and hydrate. Hydrate is used much more lately, on small jobs, but on big jobs it is all barrel lime. He reported business brisk this fall—in fact, all year—and comparing more than favorably with last year. The farm districts around Napoleon have reaped a good harvest and are in a prosperous condition.

Thiesen & Hildred, one of the oldest and largest builders' supplies dealers in that part of the state of Ohio, report business as very satisfactory and good—much better than last year. They have not had a slack month, even during the summer, and the fall looks to them as being full of promise. Farmers are using more cement than ever before, and are using it for everything where wood was used formerly. They cited instances of farmers coming to town buying cement for beams for foundations under corn cribs, outhouses, etc. Formerly they used wood blocks and set them in for foundations. Now they dig holes in the ground, fill them

with concrete, then they take an ordinary nail keg, knock the head out, so it is open clear through; set this keg on the concrete filled hole, fill the keg with concrete, which gives them the best of concrete posts to act as foundation and supports for the superstructure. They handle Castalia Portland cement exclusively; "Crescens," the popular brand of plaster made by the Toledo Builders' Supply Company; Ohio & Western Lime Company's lime in barrel and hydrate. They say that hydrate is used more every year; still most of the lime is sold in barrels. They operate a sand boat which is working overtime. This sand boat has a tonnage of 18 yards of sand and gravel, which is gotten out of the Maumee river. The demand for sewer pipe this year has been good. They get this sewer pipe from the Toledo Builders' Supply Co. and the American Sewer Pipe Co.

A MILLION A MONTH.

Denver's building record for September closed near the million-dollar mark, thereby maintaining the million-a-month record for the year. It exceeded the August record by nearly \$200,000.00 and September, 1909, by nearly the same amount, the total for September, 1910, being \$869,490.00.

CENTRAL ILLINOIS RETAILERS.

Springfield, Ill., Oct. 21.—The Pochantas Lumber Company, of Pochantas, Ill., incorporated with a capital stock of \$15,000.00, will deal in building materials. The incorporators are Jacob Mortenson, Charles E. Davidson, Charles N. Mortenson and Joseph F. Stewart.

The Ed Megger Company, of Alexis, Ill., has been incorporated and will deal in building material and supplies. The capital stock is \$2,500.00, and the incorporators are Ed Megger, Kenneth Underwood and J. M. Bean.

Springfield, Ill., Oct. 21.—The fact that the month's retail trade in Springfield has been featureless should not be taken to mean that it has been dull. There have been no noteworthy sales, but every day found a good business in lime, plaster and cement from the warehouses. There is a cheerful air among the Springfield men over the good fall business, disallowing of course, for the lull that accompanies the great state fair in Springfield. Building permits are not out of the ordinary, running mainly to small structures.

Prospects are good in other Illinois cities. Peoria shows \$208,100.00 in building permits for September, Ottawa improvements now under construction aggregate \$410,000.00, La Salle bankers estimate the coming year will bring \$150,000.00 worth of building there and Aurora has the creditable showing of \$94,850.00 in permits for the month.

Carl Beck, after his exhibit of the model farm of the University Portland Cement Company at the state fair, did a good advertising stunt as well as a philanthropic act by presenting the outfit to the Home for Friendless Children in this city. The youngsters are in raptures and as the institution has good patrons Beck and the Universal people may be casting their bread upon the waters.

ELYRIA RETAILERS.

Elyria, O., Oct. 5.—Building operations in this city are normal this year. Several large factories have been erected and a number of small residences.

Paving of streets and other public improvements have not been inconsiderable. Retail dealers in building material have had a better year than in 1909 and report that while the demand for builders supplies has not been greater than ordinary the demand for cement from the farm districts tributary to Elyria has developed an astonishingly large increase over past years.

The City Fuel & Supply Company, John Murbach, proprietor, reports business better than last year. "The demand for cement from the farm districts has increased fully 20 per cent this year. Trade is opening much heavier this month than it was in August and September. The demand for plaster is brisk as also lime. Mostly barrel lime is used here for brickwork, while hydrate is used for finishing. All other builders' supplies have had a good demand. Cement, however, is in the lead compared with last year. When one farmer," he continued, "has forty barrels of cement delivered to him for immediate use it means something."

E. C. and W. S. Griswold and C. W. Wales are the owners of The Elyria Concrete Company. They are local contractors for reinforced concrete and everything else in the cement line. They have done a great deal of work laying concrete walks and street paving. They manufacture concrete blocks used for foundations, which they ship to points within a radius of 75 miles. They are doing the

concrete work on the mausoleum here for the National Mausoleum Company, of Chicago. This mausoleum contains 200 crypts. It is built of concrete, white cement being used. When finished, some time next month, the structure will be very striking and handsome in appearance.

E. C. Griswold manufactures the Elyria brands of plaster which he ships to points in Michigan, Indiana, Illinois and Ohio. He makes the Elyria wood and cement plasters which have found much favor in these states. He reports of having done nearly three times the business he did last year. In Michigan, it is said, he got in strong and remains in right. In the last two weeks business has slackened, but he believes prospects indicate an active fall business.

The up-town office of S. Mendelson is in the Elyria block. He succeeded, one year ago, the Lagron Coal & Supply Company, having one of the largest and oldest established yards in the city. Under his ownership the yard has been enlarged and many improvements made. Being located on the tracks of the Lake Shore railroad its shipping facilities are of the very best. A broad driveway runs over the scales to the back door of the warehouse and circles the inside of the yard. A barn in the rear of the warehouse stables 5 horses. The capacity of the warehouse is large, storing constantly not less than 500 barrels of Universal and Castalia Portland cement; 300 barrels of American Gypsum Company's plasters and several hundred barrels of lime, in barrel and hydrate of the Kelley Island Lime and Transport Company. Stored in sheds, sewer pipe of the American Sewer Pipe Company is kept in large quantities; drain tile, fire clay and fire brick of the Louisville Brick & Tile Company. In the open he carries large quantities of sand and crushed stone, shipped to him by the Home Gardner Sand Company, of Sandusky, O. Mr. Mendelson is a contractor for extensive road and street work. He has done a great deal of this work in city and county. He states that business has been very active and that farmers have used large quantities of cement this year, increasing their purchases heavily this fall.

E. F. Sanford, owner of the Elyria Coal & Sewer Pipe Company, finds business fair this year and prospects for fall very encouraging. Farmers are using more cement in the surrounding farm districts than they ever did, and will keep on using more every year. He has the agency for Lehigh Portland cement in Elyria. He handles the lime of the Kelley Island Lime & Transport Company. Lump lime is mostly used here, although hydrate is becoming more popular and receives more attention now from masons. American Gypsum Company's plaster is in good demand. He carries a large stock of sewer pipe of the Robinson Clay Product Company; sand and crushed stone. He manufactures concrete blocks used for foundations.

H. B. Heacock, president of the Elyria Lumber & Coal Company, said: "We have more than doubled our cement trade this year. Farmers are buying more cement than usual and are using cement practically for everything where wood was formerly used. This company has lately entered the contracting field, equipping itself with concrete mixers, a new Kramer automatic tamper, small gutter crushing tools, etc. It has laid 2,500 linear feet of concrete curb and gutter in Beverly Court, 2,000 feet of curb and gutter in Wooster street; concrete foundation and floor in the new factory of the Broughton Bolt Works in Elyria; laying concrete foundations for brick floors and pavement at the Elyria Iron & Steel Works, and another job putting in 20,000 square feet of concrete floors in the Garfield automobile factory in Elyria. We will put in a complete line of builders' supplies this fall. Business is good and prospects more than encouraging for brisk trade."

SUCCESSFUL AND PROGRESSIVE.

John Nagy, with office at 2012 Front street, Toledo, O., is not only a successful but progressive manufacturer of cement blocks, used for foundations and for buildings. He uses the Besser and the Tilt's machines in the manufacture of hollow and solid cement blocks, which have an exceedingly large sale among farmers. Mr. Nagy's cement blocks have stood five years' test admirably and he is extending his business fast, as the demand for his product is increasing rapidly. He also conducts a coal and wood yard.

The Ajax Portland Cement Co., of Newburg, N. Y., has been incorporated at Albany with a capital of \$250,000.00. Incorporators, J. E. Sparrow, of Brooklyn; G. S. Schultz and N. Peek, of New York. They are to deal in marble, stone, cement and other building materials.

NEW YORK TRI-BOROUGH SUBWAY.

New York, Oct. 14, 1910.—On September 1, the Public Service Commission announced the advertisement of bids for the construction and operation of the much discussed Tri-Borough subway, taking in as its name applies, the Boroughs of Manhattan, Brooklyn and the Bronx. This will be the most notable engineering work that has been announced for a great many years; the proposed subway being just about twice as large as the present one. The magnitude of the work will perhaps be better realized from a few figures. The total cost will be

will be used would cover such a block to the height of 467½ feet. The steel and iron that will be used would supply 80 pound rails for 2,280 miles of railroad track or approximately the distance from New York City to Santa Fe, New Mexico.

The initial contracts will call for only \$60,000,000.00 worth of work provided the city has to finance it. The bids are in consequence of this asked for in two different forms, one for construction, equipment and operation with private capital, which are to be opened on October 20th, and the other for construction alone with municipal money, these bids to be open October 27th.

The bids for the private capital to be opened on October 20th cover the Broadway-Lexington avenue route, with extensions to Pelham Bay Park and Woodlawn; the Canal street route; the Broadway-Lafayette street route in Brooklyn, and the two extensions of the Fourth avenue route, one to Fort Hamilton and the other to Coney Island. Included in this is the possible operation of that portion of the Fourth avenue subway already under construction from Manhattan bridge to Forty-third street and Fourth avenue, Brooklyn, and the Center street loop, Manhattan, now about completed.

In regard to the bids for the municipal capital, the Board of Estimate has indicated that it can spare only \$60,000,000.00 for construction work this year. Consequently as it is important that the entire system should be completed at about the same time, the commission asks bids only on those sections which will take the longest time to construct. These are the principal portions of the Broadway-Lexington avenue route, the Canal street route and the Broadway-Lafayette route in Brooklyn. These comprise twenty-one sections and bidders for construction may bid on any one or more of them.

As final details have to be approved by the Board of Estimates and as sixty days are allowed to the contractor within which to begin the work after the final approval, there is little or no probability that ground will be broken before 1911.

The commission is very much pleased with the work being done on the Fourth avenue subway by some out-of-town contractors, and in order to bring the possibility of securing contracts to the attention of outside contractors so far as possible, it is advertising these contracts in Chicago, Boston, Philadelphia, Baltimore and St. Louis.

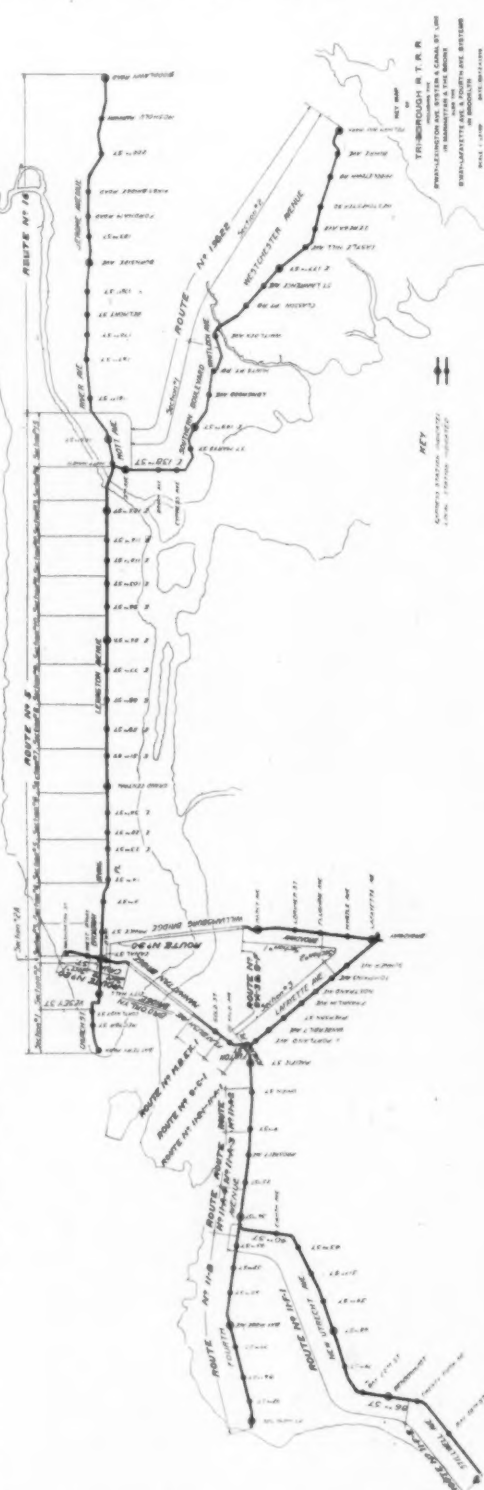
The great benefit that the building trades will realize from this work cannot be fully realized by a mere glance at the map of the proposed route or of the contemplation of even enormous figures. As soon as the general contracts are awarded, the cement concerns, the sand people, the lime concerns will find things booming all along the line. When the stations and pipe galleries are contracted for the inside marble concerns, the tile manufacturers, concrete flooring concerns will all come into their own. Building operations in this district have been rather poor for two months or more, but the prospects of so much new construction work in the subway itself and the boom in real estate and building along the route, has all of the local rock products concerns in a very happy frame of mind. To get even a very small share of that \$125,000,000.00 is the highest ambition of practically every building material house.

The City of New York is building a municipal garage on Twenty-fifth Street, near First Avenue, to cost about \$10,000. It is to be a brick and concrete building, 82'x52', with asbestos and cement roof. I. M. de Varona, of the city's forces in the Park Row Building, is the architect.

The Turner Constructing Company, of 11 Broadway, New York City, has been awarded two important contracts covering reinforced concrete work in Buffalo, N. Y. An L shaped 153'x65' building with a wing 117'x53' is to be constructed, both to be six stories high, for the Alling & Cory Company, of Buffalo. The Turner Company will also erect for the Jacob Dold Packing Company, of Buffalo, a reinforced concrete reservoir, 68'x40', and is to erect a three-story building later.

The Interborough Rapid Transit Company will erect on 149th Street, near Seventh Avenue, New York City, a two-story fireproof shed of concrete, costing \$30,000.00. W. L. Crow & Co., 103 Park Avenue, were awarded the contracts from the plans of G. H. Pegram, 165 Broadway, New York.

A six-story concrete and stone warehouse is to be erected at 55-57 Flatbush Avenue, Brooklyn, costing \$100,000.00. A. E. Kleinert has secured the masonry contract, with the Moyer Engineering & Construction Company, the engineers. The former's address is 16 Court Street, Brooklyn, the latter 375 Fulton Street, Brooklyn.



THE NEW YORK TRI-BOROUGH SUBWAY.

about \$125,000,000.00; it will extend from Coney Island on the south, to Woodlawn Road in the Bronx on the north. The engineers estimate that 9,158,000 cubic yards of earth and rock will have to be excavated. It is calculated that the excavated material if piled upon a city block 200 feet square would reach a height of 230 feet. The concrete that

**WILL REBUILD AT ONCE.**

Fire destroyed the plaster mill of the United States Gypsum Company at Alabaster, Mich., October 16. The origin of the blaze is not known.

The destruction of this mill will in no wise affect the company's ability to take care of its orders as heretofore, all orders remaining unfilled at Alabaster at the time of the fire having been transferred to its mills at other points. The destruction of this mill demonstrates the advantage this company has in having a number of mills to draw from, compared with the possession of a single mill, which, under the circumstances, would have temporarily crippled it by such a loss.

The United States Gypsum Company will immediately replace the burned mill with a new reinforced concrete fire-proof and up-to-date structure to cost over half a million of dollars, which will be in operation in four months' time. The new structure will be a twin mill of the one nearing completion at Fort Dodge, Iowa, which is said to be the largest plaster mill in the world today. This new plaster mill at Alabaster when completed will insure for the future still better facilities for taking care of its large clientele with the very best product possible to produce.

WORKING SUCCESSFULLY.

The F. D. Cummer & Son Company, Cleveland, Ohio, have sent us the following letter regarding the two Cummer processes installed at the plant of the Niagara Gypsum Company, at Oakfield, N. Y., and as the Cummer continuous gypsum calcining process is the only one on the market, gypsum companies will no doubt be interested to know that this installation is working so successfully:

"Buffalo, N. Y., Sept. 22, 1910.

"The F. D. Cummer & Sons Co.,

"Cleveland, Ohio.

"Gentlemen:—

"We have been using one Cummer continuous gypsum calcining process for about four years, and this year installed a second one of the same size. The combined capacity of these two processes is about 600 tons per day of 24 hours.

"We consider the Cummer process far superior to the kettle, because it is more economical in fuel consumption, horsepower and labor. The repairs are very much less than with the kettle process.

"With our present equipment we turn out a calcined product which is far superior to that manufactured by the old style kettle process. Our material is finer ground, more bulky, and has smoother working qualities. If we were installing another plant we would not think of changing our present process. We will be glad to show the plant to any interested parties that you may accompany.

Yours very truly,

"Niagara Gypsum Company,
"M. A. Reebe, Prest. and Treas."

ST. LOUIS PLASTER NEWS.

St. Louis, Oct. 19.—"As the United States is a rich country and growing wealthier every year, some people surely from year to year are amply able to have a new house, a new mercantile building or factory, and besides this many regard real estate as a desirable and safe form of investment. This being granted," said Manager Steeg, of the Acme Cement Plaster Company, "it is reasonable for us to expect to be able to see plaster in the future to the same if not to a greater extent than we have been doing in the past. Of course, we have our fat and our lean years, and some which are neither fat nor lean, like, for example, the present year, taking it for granted that the average business per month for the remainder of it is the same as it has been up to the present time."

NICE CONTRACT.

Decatur, Ill., Oct. 21.—Frank Fisher has the contract for the plastering work on the new Decatur High School Building. Inasmuch as the structure has 200 door openings and 400 window openings, the contract will be seen to be a fair one.

The Klein-Watson Company, of Peoria, Ill., received the contract for plastering the new First National bank building in that city.

NEW YORK PLASTER MARKET.

New York, Oct. 20.—Distributors are finding an improved call for better grades of plaster. In the Bronx and in certain parts of the outlying sections of the city many apartment house operations are still going ahead. There is a steadily improving demand for this material among the consumers planning cheaper housing accommodations to meet a steady demand for tenements in the outlying districts. In fact, the plaster market reflects conditions found among the wholesale lime interests, with prices, if anything, somewhat easier for immediate or near future deliveries.

KELLASTONE MOVES TO NEW YORK.

By November 10th next, headquarters and the general offices of the National Kellastone Roofing Company will be established at 299 Broadway, New York City, which for the past 12 months were in Terre Haute, Ind. This company has contracted with the U. S. Kellastone Company to manufacture and market "Kellastone" throughout the United States. The company has now in progress the erection of 14 plants, which will be located in the principal cities of the country. "Kellastone" will be manufactured at these plants and shipped to various parts of the Union where needed. Kellastone is advancing fast in popularity throughout this country and Canada. St. Louis has lately adopted it, being now used in all its official buildings, and the United States Steel Corporation at Gary, Indiana, is using it in its eleven new buildings now under construction. It is said they have unofficially notified the company that they will adopt Kellastone and use it in all the 180 buildings to be erected by them there. The National Kellastone Roofing Company will do a roof at \$8.00 and \$10.00 per square, warranted 15 years and inspected monthly and kept in repair without expense to the owner. A plant and office will also be established in Chicago by this company by the 10th of November, and until then mail will be received at the Terre Haute (Ind.) Trust Building.

WANTS HIGH CLASS MAN.

Arrangements have been perfected by The National Kellastone Roofing Company to establish a plant at Denver, Colorado, to manufacture and apply their "Kellastone roofing." The company desires a high class man as a director of the company and manager of the plant. Communications will be received by the president of the company at the Terre Haute (Ind.) Trust Building until Nov. 10th.

LOCAL CONTRACTOR PLEASED.

The Western Building Material Company of San Francisco received its first shipment of the new white wall plaster from the Western Gypsum Company's factory at Reno, Nev., about the end of September. Local contractors are well pleased with this plaster, which they have found to be of superior quality.

GYPSUM COMPANY BUYS PLASTER BLUFF.

Nashville, Ark.—The plaster bluff near here has been sold to the American Gypsum Company, which will at once put in a \$100,000 plant for getting out the mineral.

LOUISVILLE PLASTER NEWS.

Louisville, Ky., Oct. 17.—Plaster manufacturers are running their plants to capacity in this vicinity, and the approach of the close of the building season is causing contractors to put in hurry-up orders so as to get as much of their work completed before the bad weather comes as possible.

The increasing use of plaster in the making of stucco buildings is being commented on locally, that type of residence having become exceedingly popular here. While a special form of stucco plaster or cement is required for the work, wall plaster men are finding that it can be worked in well with their regular proposition.

The Southern Wall Plaster Company is doing a record business this season, and is supplying material for some of the most important buildings now in course of construction. The Business Woman's Club building and the Dick flats in this city and the Paris and Lexington postoffices are among the structures in which it has been used. The company is considering the installation of another mixer, and will probably double its capacity. J. A. Day & Co., Cincinnati, will probably furnish the mixer.

The Kentucky Wall Plaster Company is operating both its Louisville and Jeffersonville, Ind., plants, and is using its big warehouse at Preston and Burnett to advantage. It is likely that by having a warehouse located in the southeastern part of the city it will be able to save considerably in the cost of hauling.

KELLASTONE PLASTER.

The editor of The Plasterer, the official journal of the Operative Plasterers' International Association of the United States and Canada, wrote the following article, which was printed in the September issue of the paper:

Kellastone.

Kellastone is the name of a new plastic material which no doubt will be extensively used in the construction of buildings in the future. The plasterers of the various cities should see that none but plasterers apply this material. It matters not whether it be applied to form floors, walls, ceilings or roofs, it should be applied by plasterers. Kellastone is recommended as being both water and fire proof. It is applied much the same as ordinary mortar, either on lath or byrkit sheeting. The plasterers of St. Louis are having a controversy over this work with the cement workers. I am pleased to state that the plasterers are now doing all this work in the city of St. Louis and expect to continue doing it. It may prove both interesting and instructive to the members of the O. P. I. A. to know how this material should be applied, so we print herewith a standard specification for the application of Kellastone:

Standard Specifications for Kellastone Structures on Frame.**Plaster for Walls and Ceilings.**

For one-story building use 2x4 studding set on 16-inch centers, using every care to see that each and every studding is securely nailed and braced into its proper position.

Use double studs on each side of every door and window opening spiked together. Place a header over each door and window opening and below each window opening.

For outside walls cover the studding with horizontal board strips $\frac{1}{2}$ x2 inches or $\frac{3}{4}$ x3 inches, set $\frac{1}{4}$ of an inch apart and securely nailed with two nails at each end and every stud. This double nailing is very essential, as Kellastone in its setting and curing exerts considerable pull on the material to which it is applied, which in connection with its wonderful adhesive qualities makes double nailing in all cases very essential.

For inside walls and ceilings the studding and joists should be covered with ordinary plaster lath, set $\frac{1}{4}$ of an inch apart with broken joints and securely double nailed at each support.

Over each corner, inside or out, place a 12-inch strip of expanded metal or metal lath with a 6-inch bearing or lap on each wall or surface, securely fastened onto lath or strips with wire staples.

For two-story building the same method can be used as specified for one-story structures, but the following method is considered desirable on the score of added strength and extra thickness of wall, which is developed from the very nature of the structure:

Cover the studding for outside plaster with $\frac{3}{4}$ x4-inch, $\frac{1}{2}$ x6-inch or $\frac{1}{2}$ x8-inch sheathing set $\frac{1}{4}$ of an inch apart, securely nailed at each end and every studding with two or three nails. This sheathing to be laid diagonally on an angle approximately 45 degrees, with the line of stud.

Over this diagonal sheathing nail furring strips of common lath over the stud bearings on 16-inch centers.

Cover these furring strips with common lath, laid horizontally $\frac{1}{4}$ of an inch apart, with broken joints and double nailed.

All ornamental and decorative work, such as columns, caps, moldings, brackets, look-outs, dentils, etc., should be built up of wood, strong and secure, and covered with lath securely nailed and fastened to correspond as nearly as possible in cross section and general design to that of the finished product.

For brick, hollow tile or terra cotta lumber structures to be covered with Kellastone the essential requirement is that all such material must be set in Portland cement mortar.

In the preparation of a structure for Kellastone covering it is absolutely necessary and essential that each and every piece of timber in the entire structure is firmly and securely nailed and fastened.

Standard Specifications for Kellastone Roofs and Floors.

For Kellastone roofs particular care must be used to see that all rafters and plates are securely spiked and braced in their proper position.

Cover the rafters with board strips $\frac{3}{4}$ x3 inches, laid horizontally $\frac{1}{4}$ of an inch apart, securely nailed at each bearing with two nails.

Over each valley, hip, ridge and comb, place a strip of expanded metal or metal lath 12 inches wide, with a 6-inch lap or bearing on each roof surface, and securely fastened to sheathing strips with wire staples.

For flat roofs the same method is used as specified above. Wherever fire walls or copings are encountered all possible shrinkage, expansion and settling is taken care of in the following manner:

A strip of roofing felt or rubberoid 6 inches wide is attached with a 2-inch lap or bearing on the roofing strips and 4-inch bearings on the fire wall or coping. Above this is securely fastened into the wall a flashing strip of galvanized iron, extending down and projecting over the felt strip.

For Kellastone gutters attach firmly and securely where the gutter is desired a board strip, set at right angles to the roof surface, firmly attached to the sheathing and pitched sufficiently for drainage.

Height of board strip to be governed by the area of roof drainage.

The board strip used for guttering must be strengthened and reinforced by nailing molding strips on each side of the gutter strip, firmly nailed into the strip and roof sheathing. The gutter strip should be supported on the lower side by suitable wooden brackets securely nailed to strip and roof sheathing.

A strip of galvanized iron may be substituted for the board strip for the formation of gutters.

This strip should be wide enough to permit of its being bent "U" shaped, with sufficient lap on each side to allow firm and secure nailing to the sheathing strips.

Kellastone Floors.

All floor joists must be firmly and securely nailed, braced and bridged in their proper position.

Cover floor joists with board strips $\frac{3}{4}$ x3 inches, set $\frac{1}{4}$ of an inch apart, and securely nailed to each and every joist with two nails.

For heavy factory and warehouse floors, cover the joists with 2-inch sheathing, either tongued and grooved or set $\frac{1}{4}$ of an inch apart. Cover this 2-inch sheathing with common building lath, set $\frac{1}{4}$ of an inch apart, with broken joints and double nailed.

For sanitary floors, with floor and baseboard all made in one, with a concave connecting mold, build baseboard as specified for floor.

For covering old floors with Kellastone see that the joists are in good sound condition, well spiked, braced and bridged, and that the old flooring is sound, solid and serviceable. Cover old flooring with common building lath, set $\frac{1}{4}$ of an inch apart, with broken joints and double nailed.

Kellastone pavement floors are built of 4 inches of Kellastone concrete with regulation flooring material covering.

All steps are built solid of Kellastone concrete, and covered riser tread and ends, with flooring material.

KING'S FIBROUS PLASTER BOARD.

King's Fibrous Plaster Board is furnishing the building trades a material long demanded, as they have found it possesses superior strength and toughness. It has stood a practical fire test. In a 20-apartment building in Massachusetts, constructed of brick and stone, known as second-class construction, partitions, ceilings and including the first floor and ceiling of the basement, were lathed with this plaster board. A fire broke out in the basement of this house and everything in the storeroom was totally destroyed, including furniture, uprights and wood partitions. The ceiling of King's Fibrous Plaster Board and Plaster, however, remained intact, though badly scorched and baked—and it was demonstrated to firemen, who had successfully fought the blaze, that the plaster board had stopped what might otherwise have proved a serious fire.

The plaster board produces strong, solid walls and ceilings; protects wood frame from moisture in plastering—no confined dampness in partitions and walls; it is a sound deadener between floors and in partitions; is an insulator of heat and cold; is fireproof, and absolutely vermin proof. The main offices of the company are in New York City, 17 State street, and in Boston, Mass., 161 Devonshire street. It is handled by dealers in building materials throughout the country.

Work on completing the enlargement of the plant of the American Cement Plaster Co., at Quana, Tex., is finished. The addition was constructed of steel and sheet iron. The capacity is increased to 500 barrels a day. The cost of the addition was \$40,000.00.

The Fishak Plaster Co. has had a much larger volume of business this year than in 1909. It is making good progress with its new plaster mill at Port Clinton, Michigan, which will be finished probably late this fall.

The Mueth Plastering Company, of St. Louis, has been incorporated. Capital stock, fully paid, \$2,000.00. Incorporators—Joseph Mueth, Martin G. Wolf and Louisa Mueth. The company will engage in plastering and contracting.

ATLANTA SURPASSES WHOLE SOUTH IN BUILDING.

The amount of building permits issued in Atlanta from January 1 to September 1, was greater than the amount of permits in any other city in the South. Memphis is the only southern city that approached Atlanta, the amount of permits issued in Atlanta was \$5,411,062, and in Memphis the permits amounted to \$4,722,998. Fewer building permits were issued during the month of September than during any month of the year.

A BOOKLET WORTH HAVING.

The Willis Shaw Machinery Company, 171 La Salle Street, Chicago, has issued a booklet covering the second hand machinery they have for sale. It is neat, compact, well arranged, with index giving the different kinds and classes of machinery that may be desired. It can be carried in the vest pocket. Any one in the market for air compressors, buckets, boilers, cableways, cars, clam shell buckets, concrete mixers, core drills, locomotive cranes, jaw crushers, gyratory crushers, ditching machines, drag line machines, dredges, steam and air drills, dump cars, electrical equipment, hoisting engines, steam engines, excavators, generator sets, graders, locomotives, orange peel buckets, pile drivers, pumps, road rollers, sewer excavators, steam shovels, traveling derricks, trenching machines, steam tugs, wheeled scrapers, etc., should have one of these little books. Prices will cause many a man to open his eyes. Write for one today. It can be had for the asking.



CHICAGO SAND AND GRAVEL NEWS.

Chicago, October 21.—A noticeable change for the better has taken place in the sand and gravel trade of this city since September. Great activity the first of October among sand and gravel men has been this month's record. The volume of trade has been large, larger than any month since May. This great activity at this period of the year is due to contractors always hurrying work to completion before bad weather sets in, and to building material yards stocking up for their winter supply. Prices are a little better than in previous months, collections are good, and prospects are bright for big business dependent on weather conditions.

"Sand booming to beat the band since the first of the month," was the report at the Richardson Sand Company. The cause of the heavy demand was attributed to contractors hurrying to finish their work and to yards taking in their supply for the winter months. Prices were said to be better, collections good, and brisk business to the close of the season, depending upon the weather.

P. M. Lewis, of the American Sand & Gravel Company, said: "We have had as much business as we can handle this month—a very agreeable change in conditions in the trade from September. The demand is big as usual in the latter part of our fall season. Prices show an upward tendency and are better than last month. Conditions are good and outlook very encouraging."

The Lake Shore Sand Company is doing a big business this month, and the demand for sand and gravel is continually increasing, with prospects that these conditions will keep up to the close of the season. Prices were reported better during October and show strength.

"Business is rushing this month; demand is great as it always has been at this time of the year," said C. H. Brand, president and manager of the Atwood-Davis Sand Company. "Prices are better and conditions are good. Prospects are bright this fall for sand and gravel men, and especially so for the coming year, when much rehabilitation work of north and west side surface car lines will be commenced early in the spring; railroads having held back their work this summer and fall, will go ahead next spring, as well as the paving of a large number of streets the coming year. All this work will require large quantities of sand, which will produce a very active demand."

The National Silica Works was incorporated at Berkeley, W. Va., with a capital of \$20,000. The incorporators are George W. Taylor, William Rawles, Carol T. Bond and others, all of Baltimore, Md.

Warren Silica Company incorporated at Dover, Del., with capital stock of \$75,000.00. They will quarry stone, granite, marble and other building materials. Incorporators are Harding Kimberland, A. M. Woodbury and Thomas W. Grier, of Warren, Pennsylvania.

The second steel sand sucker to be constructed for the Lake Sand Company, of Chicago, was launched recently at the yards of the Manitowoc (Wis.) Dry Dock Company. The boat has been named M. G. Hausler, after the president of the company.

The vessel, Albert Soper, is being used at Marinette, Wis., from the bay near that city to points along the west shore of Lake Michigan.

LOUISVILLE SAND NEWS.

Louisville, Oct. 20.—The demand for sand in this market continues good. The big sewers now in course of construction here have held the demand up for the past several years, and in addition there are numerous concrete projects which require a large amount of sand and gravel.

The concrete construction proposition, as a matter of fact, is now so well established that it is the exception for a building of any consequence to go up without at least a large part of the construction being of that type. The sand and gravel men, of course, are pleased at that.

The Ohio River Sand Company is selling a lot of

sand for general purposes, and is still getting its share of the sewer contracts. There is a good demand coming from other projects as well. The company will get into its new office building in a few days. It has just let contracts for the erection of a \$15,000.00 building at Frankfort and Clay Streets, to be used as stables for the twenty-two mule teams which the company owns. The harnessroom will also be located in that building.

The Nugent Sand Company is doing a good business, and is keeping both of its diggers at work. The sewers are, of course, taking some sand, but much is going through the regular channels. The company stores its sand and gravel at Fifth and River, where its offices are located, getting it out of the barges by means of a steam hoist.

DEL MONTE WHITE SAND.

San Francisco, Cal., Oct. 16.—The Pacific Improvement Company, which owns large tracts of land in the vicinity of Monterey, Cal., has a large business in Del Monte white sand, which is about the finest and purest on the coast. T. G. Poston is in charge of the local selling end of this material, with offices in the Crocker building. A good deal of this sand is used with white cement for facing the better class of buildings and other fine work, though it is not used in general construction work on account of the high cost. It is also extensively used by local glass manufacturers, and altogether a heavy tonnage is shipped every day. The sand is loaded on the cars from the banks near the Del Monte beach by means of wheelbarrows. The company has a steam shovel which was formerly used for this purpose, but owing to the nature of the ground it was found more economical to stick to the primitive method.

Mr. Kiefer, of the E. B. & A. L. Stone Company, reports a heavy demand for their sand, and says that for the last month it has been very difficult to get cars enough to handle the business. This difficulty is now being overcome, however, and orders are being filled with little or no delay.

The Reynolds White Sand Co., Bristol, Tenn., is opening a pure white sand deposit near Mendota, Va., which is said to run 99 per cent pure. The company hopes to have everything in full running order at that point in about six weeks.

WILL BUILD GRAVEL ROADS.

Granite City, Ill., Oct. 21.—The highway commissioners of three townships of Nameoki, Venice and Chouteau townships are planning to build a series of gravel roads throughout the three townships.

ROOFINGS THAT NEED NO PAINTING.

Times have changed since the good old days when we used to climb up on our roofs every year or two and put a heavy coat of paint over them to keep them from getting wet. Some farmers used to think that roofings were made to get wet and they neglected the paint, and in a little while needed a new roof. The rest of us spent our money and labor painting our roofs with great regularity, since that was the only way to get satisfactory service out of them.

Recently the whole roofing business has been changed by the introduction of roofings which need no paint, of which Amatite roofing is the most favorably known. These roofings have a surface of crushed mineral matter, and of course this mineral matter does not need any protection from the weather. Accordingly, a mineral surfaced roofing never requires any paint whatever.

This invention is a clear benefit to the owner, and it does not cost any more, either. Amatite roofing, for instance, costs considerably less than painted roofings of the same weight.

You can get full information and a free sample from the manufacturers on request. Address Barret Manufacturing Company, New York, Chicago, Philadelphia, Boston, Cleveland, Pittsburg, Cincinnati, Minneapolis, St. Louis, Kansas City, New Orleans, or London, England.

B. L. Heller, of Oregon, Ill., spent a day in Chicago this week buying cement. He is a prominent contractor doing a great deal of concrete work. He reports many buildings being erected in and near Oregon, the foundations of which are invariably of concrete. He says this is the best year he has had in a decade.

Gold Williams, of the Marquette Cement Manufacturing Company, returned to his desk last week from Seattle, Washington. He spent his vacation on the Pacific Coast and must have enjoyed the climate as well as the food there, having gained fifteen pounds in flesh and a ruddy complexion, the envy of his friends.

CEMENT

B. E. ALLISON MAKES A CHANGE.

B. E. Allison, for many years sales and traffic manager of the United States Portland Cement Company, of Iola, Kan., has resigned his position with that company to accept the office of first vice president and manager of the Choctaw Portland Cement Works of Oklahoma. Mr. Allison is the man who made the brand "Sunflower" a household word from the Mississippi river to the Pacific coast. The Choctaw Portland Cement Works are to be congratulated in securing the services of such an experienced and expert man. He will assume his new duties at once. There are a large number of Wichita, Kan., firms interested in the Choctaw Portland Cement works.

The formation of the International Portland Cement Co., with a capital of \$1,500,000, has been announced from Spokane, Wash. Several Montreal gentlemen are members of the new board of directors.

FOREIGN CEMENT BARRELS.

Only about 2 per cent of the vast quantity of cement manufactured and shipped in the United States is packed in barrels. While nominally sold by the barrel, practically all of it is sold and delivered in sacks, and these sacks, whether of paper or cotton, have always been the source of much trouble, expense and vexation in the trade.

Barrels have practically been discarded for the reason that the interstices between the staves not only permit the contents to sift through, but also admit moisture. In Germany and Belgium, however, the barrel is used exclusively for transporting cement, and it is in barrels that European cement comes to this country.

The European barrel is, of course, quite a different package from the American barrel, says Shop Notes Quarterly. The foreign barrel is made of Norway spruce. Its staves are tongued and grooved as well as jointed, while the head is of the usual construction, of the same wood.

The hoops are of cherry wood, a much better grade than used in domestic barrels, and there are also two hoops of steel. When ready for packing the barrel is lined with black waterproof paper, through which cement cannot shift and moisture and water cannot penetrate.

This is the kind of barrel used in Belgium for shipments to San Francisco, where much European cement is landed every year. These shipments are made by way of Cape Horn, an ocean voyage of over 7,000 miles, and the product arrives invariably in fine condition.

NEW CEMENT PLANT IN THE NORTHWEST.

Spokane, Wash., Oct. 20.—Papers were mailed to the secretary of state in Olympia, Wash., yesterday for the incorporation of the International Portland Cement Company, limited, with a capital of \$1,500,000 preferred and \$1,500,000 common stock, which, it is announced, will build a plant in Spokane. B. S. Irvine, of Ottawa, managing director of the International Portland Cement Company, of Canada, will probably be president of the new corporation.

The new concern has options on two mill sites west of the city, and announces its intention of duplicating the great plant near Ottawa, the capital of Canada.

ACCEPT REORGANIZATION.

Two hundred and thirty Iowa stockholders of the Lumberman's Portland Cement Company of Kansas City, representing a total of nearly \$230,000 of stock in the concern, have voted to accept the plan of reorganization of the company proposed by President W. E. Woods. The proposition involves the issuing of \$300,000 in bonds to be taken up by the original stockholders. The old stock will be redeemed dollar for dollar by the new company, giving in return the bonds of the new concern.

BIGGEST CEMENT SHIPMENT.

Allentown, Pa., Oct. 13.—During the twenty-four hours ending at midnight yesterday the Atlas Cement Company shipped 212 carloads of cement on its Panama canal contract.

It made seven big trains, and is the heaviest day's shipment on the canal order, which amounts to 5,500,000 barrels.

CHICAGO CEMENT NEWS.

Chicago, October 21.—A marked feature in the cement market this month is the large volume of business, all ordered in small lots of one and two carloads from country dealers. Large orders from cities have been slow, but the demand from the country districts has more than offset the slackened demand in cities. Farmers this fall are using more cement than ever before, and it seems that every month develops new needs for concrete to make further improvements on farms. It is estimated that fully 40 per cent of all cement manufactured is used on farms. Stocks are low at the mills, and it is said in some quarters that if the fine weather of October continues till the middle of next month it is within the range of possibilities that reserve stocks of cement at mills will be cleaned out. Prices are steady and firm, conditions excellent, and cement manufacturers in a happy frame of mind.

Gold Williams, of the Marquette Cement Manufacturing Company, said: "Business is good, demand is large, and conditions are excellent. Prices are firm and steady. There are no stocks on hand in the country, to speak of. Everything looks lovely. This is the busy period of the year with cement people, and October is proving to be an excellent month."

Business this month was as great as at any time during the past months of this year with the German-American Portland Cement Works. The company is behind in its shipments and reports stocks low and prices firm. It considers the outlook bright to the close of the season.

B. F. Affleck, sales manager of the Universal Portland Cement Company, said: "The demand for cement in large orders from cities has slackened, but is more than made up by orders coming in from country dealers. A noticeable feature in the trade this month is its large volume of business and small orders. Prices are steady. Stocks throughout the country are low. Prospects to the close of the season are bright."

"Demand is large and business excellent this month," said George W. De Smet, distributor of Vulcanite Portland cement. "I am very busy filling unfinished contracts. Conditions remain good and prospects are bright. Prices are lower than they were two months ago, but steady."

"The demand for cement is always excellent at this time of the year, and is good this month," said D. Richter, western representative of the Alpha Portland Cement Company. "Conditions remain as satisfactory as they have been during the entire year. Prices are steady and stocks lower than last year. The outlook for a good and steady demand to the close of the season is bright."

John G. Evans, of the Atlas Portland Cement Company, is satisfied with the volume of trade this month, with orders, which have been numerous, principally from local dealers for their immediate trade requirements. He reports prices fairly steady and conditions satisfactory.

"Demand the biggest ever," replied J. U. C. McDaniel, traffic manager of the Chicago Portland Cement Company, to the question as to how conditions were in the cement trade. "There was some talk a little while ago," he continued, "of a car shortage, but railroad companies are furnishing cars promptly and there will be none. Stocks of cement in all parts of the country are low, and if this fine weather holds out till next month it is likely every mill in the country will be cleaned out of cement. Conditions are excellent and prospects bright till the close of the season. Prices are firm."

TO BUILD CEMENT PLANT.

Superior, Neb., Oct. 17.—Word has just been received here from Clayton M. Laughlin, president of the Nebraska Portland Cement Company, that the contract for the steel construction work was let yesterday to the Kansas City Construction Company, of Kansas City, Mo., and work will commence at once.

The German-American Portland Cement Works, of La Salle, Ill., will enlarge its plant and make improvements to cost nearly one million dollars. The working force, which is now 225 men, will be doubled.

The International Portland Cement Co., limited, of Spokane, Wash., has been organized with a capital of \$3,000,000.00. The incorporators are: F. W. Dowart, A. F. Appleton and I. Norden.

The Fort Dodge Portland Cement Company is to erect a \$2,000,000 cement plant at Gilmore City, Ia.

ST. LOUIS CEMENT NEWS.

St. Louis, Oct. 19.—Replying to the inquiry, "How's trade?" A. H. Craney, manager of the Portland cement sales department of the Union Sand & Material Company, as he looked up from a mass of papers on his desk, rejoined: "It's good—good here and good at Kansas City." To the sililoquy of the Rock Products man that it was strange what became of the immense product of the cement manufactories, Mr. Craney said that the big consumption was owing to the fact that new uses for this staple material were being continually discovered. "That reminds me of an incident," by the way," observed Mr. Craney. "A man wished to sell the company, for cash, information concerning a new use for cement. Not wishing to buy a pig in the bag, I sought to learn what this wonderful discovery amounted to, and finally found it was that posts could be made in which to insert the glass for fish aquariums. I disposed of him by saying that probably one barrel of cement would answer for all of the said aquariums that would be made in St. Louis in a year! While we are on this subject, it occurs to me that ROCK PRODUCTS would do the cement industry a good turn to call especial attention to the matter of concrete roadways, which has been adopted by St. Joseph, Mo., Independence, Kansas City and Wichita, Kansas, and twenty-seven other cities. The cost per yard at Kansas City was 73c to \$1.10; Windsor, Ont., 99c to \$1.15; Mason City, Ia., \$1.19 to \$1.26; Denver, Colo., \$1.27; Richmond, Ind., \$1.06. The fact that such a roadway can be built with less crown than in case of asphalt renders it safer for horses, and it also has a rougher surface." Mr. Craney can talk on roadways like an expert, by virtue of having been a roadway engineer.

Good progress is being made on the new city bridge which crosses the Mississippi at St. Louis. The "Red Ring" brand of the Union Sand & Material Company is being used exclusively in its construction. It is delivered by cars and transferred to storage barges on the east side of the river.

The Continental Portland Cement Company state that since last spring they have enjoyed a good demand for their brand of Portland cement.

"I am trying to be in two places at once," ruefully exclaimed Charles McCormick, president of the McCormick Waterproof Portland Cement Company. "It is difficult to say where I am most wanted—at the office or at the factory; to say nothing of calls needed to be made on parties out of the city. Look at this mail; it's as much as two strong stenographers can handle. It's true, there is the bookkeeper and the assistant manager, who help me out all they can; but in getting a new business well under way only those who have been there can appreciate the size of the job." Any one who knows Mr. McCormick is well aware he is a worker, and no mistake about it. For this reason he is dead certain to "get there" in the manufacture and the sale of the company's patented process and formula for waterproofing Portland cement. The main thing in this world of business is to have a good thing. The next lies simply in securing a trial of it, and the rest comes as a matter of course. Each experimenter not only becomes a permanent consumer, but he goes still further and recommends it to others.

DAKOTA PORTLAND CEMENT COMPANY AWARDS CONTRACTS.

The executive committee of the Dakota Portland Cement Company, together with their engineers, have been engaged in the consideration of bids and proposals for the purchase of machinery to be installed in the company's plant now being built at Chamberlain, S. D. All the best machinery and electrical manufacturers of the country were represented in the bidding and contracts were finally awarded this morning as follows:

Allis-Chalmers Company, Milwaukee, Wis.—Large turbines for power plant.

General Electric Company, Schenectady, N. Y.—Thirty-three electric motors, for driving heavy machinery.

Bradley Pulverizer Company, Boston, Mass.—Nine finish grinders.

Power & Mining Machinery Company, Cudahy, Wis.—Tube mills, dryers, coolers and rotary kilns.

These rotary kilns are 8 feet in diameter by 125 feet in length and weigh 115 tons each.

These are decidedly the largest machinery purchases ever made by any South Dakota concern.

The plans and specifications for both mill and machinery were made by the Freeborn Engineering and Construction Company of Kansas City, Mo., who have full charge of the engineering and construction work and who are one of the best quali-

fied and most reliable concerns in the United States. The plant and equipment throughout as designed will be a model in every detail and will embody the most modern and scientific principles known in cement mill construction.

The buildings are now being erected and the management of the company are to be congratulated on the successful progress being made in the development of this enterprise, which will mean much to this state.

DETROIT CEMENT NEWS.

Detroit, Mich., Oct. 20.—Cement plants in different parts of the state are operating full, with every indication of continuing so through the ensuing months of the year. The demand is from local and state circles as well as from foreign states. There has been no change in quotations during the month, the market still ruling firm at \$1.25, f. o. b. Detroit. This is the high mark of the year, and manufacturers do not expect it will go further up. Shipments of cement and cement products have been quite heavy during the month, and some dealers are complaining because of an absence of cars. Railroads operating in different parts of the city and state are sending all surplus rolling stock into the West to move the grain crop, and because of this Michigan manufacturers are left out. Michigan cement producers are also complaining because of the extra charge of \$3.00 per ton for reconsignment of freight from Detroit to any point in Michigan. They declare this is an unjust discrimination and through the Detroit Traffic Association they have entered an appeal to the Interstate Commerce Commission. The evidence of both sides has been taken and a decision will be rendered by the commission at its next session. At least the matter will be considered again then.

Litigation that has tied up the affairs of the Egyptian Portland Cement Co. for more than six months, preventing the company operating its big plant in Fenton, according to those familiar with conditions, has precipitated a crisis that is likely to result in intervention by bondholders to secure protection of their rights and have their interests legally defined. Like several other Michigan cement companies, the Egyptian concern has had a tempestuous career. Organized and incorporated under the laws of the state, June 20, 1900, the company almost from the start has been hampered because of insufficient funds to carry on its operations properly. Its Fenton mill, that has a capacity of 2,600 barrels a day, is valued at approximately \$500,000.00, and it has also extensive real estate holdings that contain, say experts, beds of marl and clay of high quality.

The company has issued \$1,050,000.00 worth of common stock, par value \$10.00 per share; \$600,000.00 worth of preferred stock, and \$200,000.00 worth of bonds, at the time of its organization, and about five years ago gave the Union Trust Co., of Detroit, a \$650,000.00 mortgage.

In 1906, under new management the company gave an additional stock issue, the intent being to use the additional stock for the retirement of the company's bonds by substituting stock for them. This proposition was accepted by all but holders of about \$250,000.00 worth of bonds, for whom the Union Trust Co. remained trustee.

It is understood the cement company now has liabilities of about \$95,000, secured by approximately \$160,000.00 worth of bonds, and about \$25,000.00 worth of unsecured liabilities.

DENVER CEMENT NEWS.

Denver, Colo., Oct. 20.—Colorado will this year produce more than 1,000,000 barrels of Portland cement, worth in the retail market nearly \$1,750,000.00. This is an increase in value of approximately \$1,000,000 and is significant of the fact that after a very "lean" year the manufacturers are indulging in a season of great prosperity.

The growth of the industry in this state is attributed by the home producers to the increased use of cement in the building trades, to large street and road improvements and to the construction of bridges and irrigation works of concrete, in which cement is the chief factor. The two factories in Colorado, namely, the United States Portland Cement Company of Colorado, located at Concrete, Colo., and the Colorado Portland Cement Company, at Portland, Colo., are running at full capacity and find a ready market in this state and adjoining territory. While for some time restrained by the unfriendly attitude of the railroads, they now have rates so favorable that they are able to compete in the entire western and northwestern territory, Colorado cement finding ready sale even as far north as Vancouver, British Columbia, and as far south as Mexico.

The last year, according to an official of the Colorado Portland Cement Company, was a disastrous one for the trade. While there was an increased demand for cement, the manufacturers, who were eager to satisfy this demand, began cutting prices to get the trade, and as a result cement of the first grade sold as low as \$1.21 per barrel, which was practically a loss after the freight was paid to Denver. While this condition lasted nobody made any money and many concerns were forced to cease operations. This was particularly true in Kansas, where only six firms out of twenty survived the struggle. This year, however, manufacturers have been holding up prices to a mark that yields profits and makes possible extensions and improvements that were deferred because of the strife in the preceding twelve months.

According to the latest bulletin of the United States Geological Survey on the cement industry, Colorado and South Dakota, the former with two and the latter with one plant, were credited with the production of a little more than a million barrels in 1909, worth at the average price of the year about \$1,250,000.00. Since then the South Dakota plant has suspended and it is the belief of the Colorado manufacturers that this state alone will make more than both did last year.

TO TAKE OVER OLD PLANT.

The Bonner Brand Cement Company, of Kansas City, Kas., was granted a charter recently. It has a capital of \$600,000.00 and proposes to take over the cement plant at Bonnen Springs, Kas., which now is in the hands of a receiver. The incorporators are composed chiefly of old stockholders. The report of the receiver shows that the plant made a net profit of \$10,000.00 last month.

The International Portland Cement Co., of Spokane, Wash., capital \$3,000,000.00, has been incorporated by J. S. Irwin, of Ottawa, Rudolph Forget and others. The company is considering plans for building an extensive plant near Spokane.

The cement contingent in Kansas City is optimistic. They believe that Kansas City will soon be disposing of 10,000,000 barrels of cement a year. There seems to be no good reason why their "dream of the future" should not be realized. The dealers in cement at Kansas City are now selling more than 5,000,000 barrels annually, and with the ideal location they have this amount ought to be doubled in a few years. Even then, unless all signs fail, they will only have kept pace with the general advance throughout the country.

W. ALDEN BROWN TO RETURN TO ENGLAND.

After two years spent in the United States, W. Alden Brown is preparing to return to his home in England. During his residence here, Mr. Brown has endeared himself to a wide circle of friends who join with the editor of ROCK PRODUCTS in genuine regret at losing him. Mr. Brown is thoroughly posted on the cement situation and in discussing the same with a representative of ROCK PRODUCTS recently stated: "I cannot leave the country without congratulating the Americans on the great progress made with the cement industry, and I am certainly pleased to have occupied the position of Assistant Superintendent under a very clever cement engineer, C. U. Leh, in a large modern plant and seen for myself the great difficulties that have been overcome by your engineers and the new processes in the manufacture which I know are now introduced abroad, producing results which Americans have every reason to be proud of. Although the idea of a rotary kiln was conceived in England, it was the Americans who have made its use commercially possible and today you are producing between sixty and seventy million barrels of cement annually which would have been absolutely impossible without the rotary kiln, and owing to your hard materials in many states the effective crushing and grinding machinery introduced. The fact that your output in this county has grown from forty-two thousand barrels in 1880 to the figures just mentioned clearly proves the commercial and scientific reputation it has steadily established, making it one of the greatest industries in the United States."

FIRM DISSOLVED.

Elkhart, Ind., Oct. 21.—The contracting firm of C. W. Hoeker & Co., which manufactured cement building blocks, has been dissolved, P. T. Longacre retiring. Mr. Hoeker will continue the business while Mr. Longacre will do general contracting.

SAND-LIME BRICK

A RECORD TEST.

The sand-lime brick manufactured by the Savannah Brick Works, Savannah, Ga., have a record test, as follows:

In compression, dry average, 5,415 lbs. per sq. inch.

In compression, wet average, 4,413 lbs. per sq. inch.

Modulus of rupture, dry, 678 lbs. per sq. inch.

These results are practically double the regulation requirements of New York building code, which is about the most rigid for testing building materials known in this country.

PLANT COMPLETED.

The Oklahoma Granite Brick Company, Oklahoma City, Okla., has just completed its sand-lime brick plant, and it has started operations. It is stated that they are making a very fine specimen of brick, and as they have very good material for their operations, there is no question but that they will readily find a good market for all they can produce. The officers of this company are: William Zuill, president; W. O. Mitchell, vice-president; A. Dunn, treasurer; R. L. Corley, secretary and manager.

SAND-LIME BRICK FACTORY.

The accompanying photograph shows the Saginaw Table and Cabinet Co.'s plant at Saginaw, Mich. The building was constructed entirely of sand-lime brick. It measures 60'x228' and is two stories high.



SAGINAW TABLE & CABINET CO.'S PLANT AT SAGINAW, MICH.

There is a 7' basement and the boiler room, 36'x40', is built as an "L" to the main structure. The stack measures 125'. The foundation was also constructed entirely of sand-lime brick. John Herzog was the architect and Spindler & Kearns the contractors. The building was completed in the short time of six weeks. There are other factories in Saginaw now being built of sand-lime brick, and these all make a pleasing appearance.

CALIFORNIA HAS NEW SAND-LIME BRICK PLANT.

The Silica Brick Company, Sacramento, which purchased a 30-acre factory site in the Haggin grant for the purpose of erecting a large plant for the manufacture of silica brick and other building materials, has commenced to excavate for the foundations of the big factory building. A large crew of men is at work at the site, and within a fortnight it is expected that the work of laying the foundation will be under way.

In addition to getting ready for the foundations, the company is having a large amount of building material, such as gravel, cement and sand, together with lumber, shipped to the site for the actual construction of the building.

Upper Kittanning Brick Company, of Bradford, Pa., has been incorporated with a capital stock of \$200,000, by H. O. Wittpenn, of Jersey City; G. W. Foster, C. E. Foster, E. P. Schoonmaker, of Bradford, Pa., and E. H. Houghtalling, of New York.

QUARRIES

HUGE QUANTITIES OF CRUSHED STONE SOLD IN NEW YORK.

Approximately 2,100,000 cubic yards of crushed stone has been delivered at the docks of Greater New York during the last twelve months. This entire output is confined to points along the Hudson River—and represents the production of seven quarries—not one of which is situated more than eighty miles from "Little Old New York."

This entire quantity, representing 5,250,000,000 pounds of crushed stone, is used mainly in and around the city proper, less than 4 per cent of it being exported coastwise from New York.

One-third of the output is used by general contractors for sidewalks, walls, foundations, subways and fireproofing. Over one-third is used by the various city departments for the docks, asphalt paving, macadam roads and street openings. One-fifth is used for railroad ballast on the various railroads leading into New York. The comparatively small balance is used in the improvements made by real estate operators in outlying suburban districts and for private estates, country roads, etc.

Crushed stone costs to produce, and to deliver into the barges at the quarry, from 50 to 60 cents per cubic yards, depending upon the magnitude of the output and the machinery, and the equipment for conveying.

The average selling price during 1910 ranged from 75 cents to \$1.00 a cubic yard (delivery to New York). The bulk of the sales being made at 85 cents to 90 cents per cubic yard. These figures indicate that there is very little if any profit in crushed stone production under existing conditions. This is due to the present low prices, which are the inevitable result of overproduction.

ENGINEERING CONTRACTOR SUGGESTS A NEW PLAN.

"Work Preliminary to Road Construction and Street Pavement Maintenance" was the title of a paper read before the American Society of Engineering Contractors at St. Louis during the National Good Roads Convention. The paper stated that pavement guarantees and maintenance beyond a period of one year were unfair to the taxpayer and gave as his reasons the doubtful legality of such a guarantee, and the further fact of contractors including in their bids the expense of furnishing bond by surety companies.

Mr. Warren suggested that the cities retain 5 per cent of the contract price agreed upon in lieu of surety bonds. If this was generally adopted the amount of money so retained per annum, would reach \$5,000,000.00. The interest alone on which would average \$1,500,000.00 in five-year periods.

The Helene Rock Company has been incorporated, to engage in a general rock-crushing and quarrying business with a capital stock of \$24,000.00, all of which has been paid up. The incorporators are: S. S. Faulkner, J. B. Miles, Jr., Sebastian Straub and W. M. Straub.

Sebastian Krug has purchased from the Sanitary District of Chicago 704,050 cubic yards of stone blasted in excavating the canal between Stevens Street in Lemont and a point two miles north at 12½ cents a cubic yard, the contract aggregating \$88,008.00. The stone is to be removed in six years. Mr. Krug will build crushers along the canal and will transport the product to Chicago to be used in paving and in the foundations of buildings. The price paid was 2 cents a yard more than was ever obtained by the district for stone in such large quantities.

With a capital of \$10,000 the Aqueduct Quarry Company, of Saratoga Springs, N. Y., has been incorporated to quarry granite, limestone, trap rock and building stone. The directors are: John K. Walbridge, Luther A. Wait, of Saratoga Springs, and Carleton H. Lewis, of Schenectady.

The New England Trap Rock Company, capital \$25,000.00, all paid in, has been incorporated at Tariffville, Conn., where all sizes of stone will be crushed for road construction. The incorporators: Edward Balf, Myron J. Case, B. L. McGurk, W. McMahon, and Timothy J. Long.

OPERATING BLAST HOLE DRILLS WITH COMMON LABORERS.

The writer has visited many railroad contracts and quarries throughout the United States in the interest of drilling equipment for blast holes and has talked with a great many superintendents regarding the production of stone, and it is surprising the number of concerns who have not been able to solve the problem of drilling and blasting; which is due entirely to their lax method of handling that end of the business.

The big majority of men in charge of this class of work seem to consider that the drilling and shooting of material is of minor importance, and place in charge of the work men who are totally ignorant of the proper drilling and spacing of holes or the proper handling of explosives, and the also equally important item of operating the drills successfully in order to get the maximum number of feet per day.

The steam shovel is manned by a competent engineer and crane-man; the locomotive by a skilled engineer; in fact, everything necessary for the handling of material is in charge of experienced men. But when it comes to the production end, this is too often dependent upon the cheapest labor obtainable.

If there is no material to be handled, the entire outfit is at a standstill; if the material is not properly broken up, the entire efficiency of the outfit is curtailed.

The men in charge of drilling and blasting hold the key to the production of the plant; they vary the profits to such a degree that this, being the most important factor in connection with the plant, it should be under the care of competent men to not only operate the drills successfully, but to be able to space the holes and use the right amount of explosive to do the work properly without waste of material.

The saving of drilling by proper spacing and springing of holes, the material broken up properly for economical handling, the delays of the entire shovel crew incident to the improper production of material, have no comparison to the trifling saving as between a cheap man and a competent man in charge of the drills.

Contractors who have tried out the experiment of placing drill men in charge of their outfits find that it is the most economical by big odds; the writer refers to drills of the well-driller type.

When they are being used for deep holes and light charges, it is no small problem to handle the drilling and blasting end of a big contract, as there are no set rules that can be strictly adhered to, on account of the varying conditions of materials to be handled.

A plan carried out successfully on one job does not mean that it can be done in exactly the same manner on the next job, even if the material seems to be about the same, so that each proposition must be worked out according to its own peculiarities.

A man who can adapt himself to the varying conditions can save the contractor more money than any other man on the job, and a cheap drill foreman can break up more machinery, cause more delays, and, through inexperience, waste more explosives, therefore causing more loss, than any one else on the job.

WANT REPORTS.

Springfield, Ill., Oct. 21.—Reports from Illinois limestone quarries on the blanks sent out by the State Bureau of Labor Statistics are slow, so Major J. D. Roper, chief statistician, informed the ROCK PRODUCTS representative. The bureau is very anxious to have figures regarding this important industry so that it may be shown in its proper rank. Second letters have been sent out to many of the operators asking them to comply with the request and give the desired information.

VULCAN SHOVEL WORKING ON BARGE CANAL.

The September Barge Canal Bulletin, in the department of the State Engineer and Surveyor of the State of New York, reviewing work done on the barge canal the past month, states that the Vulcan steam shovel removed about 4,400 cubic yards from the prism above Lock No. 6, of the Erie canal section, which completes steam shovel work at guard gate. Most of the material taken out was used as embankment behind the north wall of Lock No. 6. Near this lock some excavating was done by hand for walls and piers.

The Petoskey Crushed Stone Company, Elk Rapids, has increased its capital from \$30,000.00 to \$105,000.00.

MILWAUKEE QUARRY NEWS.

Milwaukee, Wis., Oct. 20.—C. B. Packard, of Sturgeon Bay, Wis., has sold his holdings in the Sturgeon Bay Stone Company to Herbert P. Peretson of that city. The company owns a fleet of boats, which are used in transporting the stone from the quarries on the bay to the city. Mr. Packard has had charge of one of these boats for a number of years, but has retired.

The city of Milwaukee is contemplating going into the stone and quarry business. Preparatory to doing so bids are being received on suitable property near the city. The following bids have so far been received: Twenty-four and one-half acres of quarry property adjoining the city, including equipment, now operated by the Monarch Quarry Company, \$180,000.00; ninety acres near Port Washington, C. W. Stone, Milwaukee, \$150.00 per acre; forty acres at Lannon, Davis Bros.; ninety-five acres near Jackson, Wollen & Gumz, Jackson, with equipment, \$38,000.00; tracts of eighty-five and forty acres near Saylesville, Saylesville Manufacturing & Construction Company; forty-four acres near Milwaukee, F. D. Tasse, \$1,000.00 per acre.

The Chippewa Sugar Company, of Chippewa Falls, Wis., is considering the purchase of a large stone quarry from William McDonald, near New Richmond, Wis.

At a recent hearing of the bankrupt Wisconsin Concrete Building Supply Company, of Milwaukee, an order was filed requiring the bankrupt company to file a schedule of assets and liabilities.

Gilson Brothers and Farrell & Dickson, of Askeaton, Wis., have been awarded the contract for hauling the crushed stone to be used in highway improvement work at Green Bay, Wis. For a five mile haul they are to receive 74 cents per yard and 34 cents per yard on a two and one-half mile haul.

Extensive improvements are being made to the municipal stone crushing plant at Baraboo, Wis. A new building 24' x 30', with 12-foot walls has been erected from quartzite, which is obtained from the quarries near that city.

Competitive bids are being received by the city of Milwaukee, Wis., for crushed stone to be used in street improvement work about the city. The first price on a lot of 5,000 yards was \$1.33, but later a figure of \$1.27 was obtained on a lot of 800 yards. The next amount to take bids on will be 20,000 yards.

The Leatham & Smith Company, of Sturgeon Bay, Wis., has secured a government contract to furnish 7,200 tons of rip rap stone for improvement work which is being carried on at Ludington, Mich. Each of the stones must weigh not less than three nor more than five tons. The contract aggregates about \$18,000.00.

H. E. Briggs, commissioner of public works of Milwaukee, Wis., and the city council stone quarry committee made an inspection tour in Waukesha county recently. Two quarries were visited, one six miles west of Waukesha and the other at Lannon.

Owing to the unusually heavy demand which has been made during the past summer for fine crushed stone and dust, for use as a top dressing for macadam pavements, the plants at Superior, Wis., have been forced to work overtime to meet the demand and additional equipment is being installed in some instances.

Contracts have been signed by Rasmussen & Sons of Oshkosh, Wis., and the city officials of Sheboygan, Wis., for a tar-macadam pavement with concrete base to be laid on South Water street. Work will not be commenced until the spring of 1911.

WEST COAST QUARRY NEWS.

San Francisco, Cal., Oct. 15.—Mr. Kiefer, of the E. B. & A. L. Stone Company, states that their crushed rock business is keeping up to the fine record of the last three months, and that the demand at present is especially strong in the country. Shipments are being made from the quarries as rapidly as possible in view of the scarcity of cars.

The J. J. Belser Company, which handles a large amount of contracting work in crushed rock and concrete in the Hawaiian Islands, recently installed a No. 7½ McCully crusher, giving it the largest plant in the islands. The largest crusher formerly installed there was a No. 6 McCully. This company has also recently put in a large set of rolls, elevators and screens, and a steam power plant.

The Corona Rock Company has been incorporated at Los Angeles, with a capital stock of \$50,000.00, by G. C. Ward, G. R. Wilton, C. A. Henderson, G. P. Griffith and A. Crutcher.

METHODS AND ECONOMIES IN GETTING QUARRIED ROCK TO THE CRUSHER.

By L. W. Statler, Plqua, Ohio.

The quarryman who has stuck to the problem of low cost transportation from ledge to crusher until he has reached the ultimate reduction under his peculiar conditions has gone a long way toward success. Conditions are indeed variable and although the task in all cases is one of moving the maximum weight of rough material in the minimum length of time, yet exactly the same difficulties are seldom found in any two quarries, even when located quite near each other. Height of ledge and its distance from crusher are important factors. Not less so is the character of the quarry bottom as regards its slope, smoothness and hardness. The position of the crusher with relation to the floor of the quarry, whether on the same level, higher or lower, may influence the percentage of profits very largely dependent on the method of handling adopted. All these things must be considered by the quarryman or the competent engineer whom he employs to plan his investment.

The ideal condition would consist of a quarry having a high ledge, not less than thirty feet of rock that can be easily blasted to a suitable condition for handling by steam shovel into cars on tracks level with the top of the crusher. Now with sufficient cars, good track, and a motive power of the right sort, nothing more could be desired, even by a quarryman possessed of a very exacting nature. It is when, as is the usual case, that we find a state of affairs more or less at variance with the favorable condition outlined above, that methods must change and economies vary.

When the quarry bottom is on a level with the top of the crusher there can be little question but that cars of as great a size as practicable consistent with the capacity of the crusher should be used. The motive power can be steam locomotive, electric or gasoline motor, the main requisite being that whatever style is adopted that ample allowance of power should be provided. Even when the crusher is considerably above the floor of the quarry the cars should be delivered at the point of discharge without the use of incline and cable if possible to so arrange; it will pay to run the cars a considerable distance to overcome the grade if the round trip can be made without delaying the steam shovel. Many quarries in operation today, where the conditions permit the delivery of stone at the crusher without the use of an incline and cable, use standard gauge track and switch engines. Using cars of from 6 to 25 tons capacity, loaded by steam shovel, and handled by standard gauge locomotives in two or more trains on double track, it is needless to say that this method would be difficult to improve.

When the necessity for using a cable and incline becomes imperative the ideal condition requires that the system adopted should provide for the continual supply of the units of transportation at the foot of the incline so that the cable and hoisting apparatus can be kept continually in use. These units necessarily become smaller, as it is out of the question to handle as heavy a load on an incline as can be done on a level track, or one having a moderate percentage of grade. Therefore the arrangement of the entire quarry should be such that the cars or trucks can be so supplied, loaded at foot of incline, that the capacity of the entire plant is dependent upon the ability of the incline to handle them to the crusher. The movement of cars on the quarry level should be accomplished with greater speed as compared with a quarry requiring no incline, since they are lighter and of less capacity and must make more frequent trips to accomplish an equal amount of work. Since the incline must elevate the cars considerably above the quarry floor, special study should be made in each quarry to determine the practicability of returning the empty cars to the ledge by gravity, thus saving the time and power by nearly one-half. This is particularly worthy of study in quarries where the distance from ledge to foot of incline is considerable. The main difficulty with this proposition is the problem of how to release the cable from the empty cars when on the return slope and to deliver it to the point where needed for attachment to the next loaded car.

The topography of a quarry property is quite alluring when the floor level is higher than the crusher, but this condition is also fraught with difficulties. It is almost as expensive to lower rock in bulk as to elevate it for a similar distance. Many quarry propositions have been worked out by enthusiastic owners on the theory of having a loaded car pull an empty one up the incline. While this appears decidedly simple on its face, yet when worked out in practice but very little is saved. The problem of delivery from ledge to incline remains the same. A man is required to handle the control and an intricate system of breaks must be used in exchanging the loaded and empty cars, unless the more practical



QUARRY OF STONE PRODUCTS COMPANY, MIAMI COUNTY, OHIO.

method of using platform trucks on the incline is employed. Then, too, the danger is quite as great, in case a cable should break, when a car is descending toward the crusher by force of its own weight as when it is being hoisted up an incline by means of power. Taken all in all, the quarry having a floor level above the crusher has but small advantage over its competitor where the ledge is lower than the crusher. This refers, of course, mainly to the question of cost difference between elevating or lowering rough quarry rock to the crusher. There are many other things to consider; among these is the probability that a quarry lying higher than the crusher will not require pumping to free itself of water. There is also the further possibility that such a quarry will also lie in a manner permitting storage facilities to be installed between the crusher and the shipping facilities. One instance of this kind is recalled by the writer where the crushing plant stood at least fifty feet up a very steep slope above the railroad switch. Storage facilities in this case were installed very cheaply that enabled the owners to continue operations for months without stopping. There are very few producers but will appreciate the value of this; it not only enables one to keep a regular force of good men employed in slack times but it likewise affords preparation to meet the extra demands that are bound to come sooner or later. For quarries having the ledge either higher or lower than the crusher to such a degree that an incline is demanded the use of a combination wagon and car is worthy of consideration. Several other requisites are also important, i. e., the quarry floor should be exceptionally hard and smooth, the ledge higher than the average, and the distance short from ledge to incline. Under these conditions, and where it is not practicable to use a steam shovel, a truck that combines all the good features of a wagon on the quarry floor with the advantages of a quick dumping car on the incline, is a very desirable thing for the progressive quarryman. Such a device will save a great deal of time, bother and money in the cost of moving track in the quarry and it also saves a considerable invest-

ment in tracks that are in continual danger of being damaged by falling rock. Several quarries in Ohio have worked out this theory of handling quarried rock to the crusher very thoroughly and successfully; one of them going so far as to use these combination trucks in connection with a steam shovel.

These trucks are very clever in construction. They are as low as the lowest car, counting the and rail; they are short turning in spite of comparatively high wheels, and the team or horse can be attached at either end as the cars can be drawn with equal facility in either direction. The half round tires engage channel tracks on the incline and the load is dumped either from forward or rear end; as preferred, in exactly the same manner that cars are used.

To sum up, the quarryman who solves his individual problem of handling quarried rock to the crusher will have done very much toward perfecting his complete method of production, because this feature or item of his cost is relative to and dependent upon many others; and in perfecting this one he will have, doubtless, perfected others and brought his entire plant into a state of correlation of parts that means absolute and unequalled success.

In the first place, a road should be prepared and rolled so that it is perfectly smooth before any finishing coat is applied. I am sure you have felt in riding over some roads that the surface resembled the waves of the ocean. This is caused by loads of material being dumped at different points, top leveled off, leaving the center of the load undisturbed and more compact by being dumped. As the surface material is so much softer, when the road is first leveled and raked these depressions do not appear, but the hard core in the center of each load will remain there and grow more and more exaggerated by the action of the traffic. The wheels going over the hard place and striking the soft will leave the road very uneven. Every load of gravel or stone placed upon the surface of the street should be dumped upon a platform or every shovelful should be so handled that it will be evenly spread. In this way it is possible to get a



MAIN QUARRY LEDGE OF THE OHIO MARBLE COMPANY.



QUARRY INCLINE AND PLANT OF THE OHIO MARBLE COMPANY.

GOOD ROADS

The National Convention Meets at St. Louis— Excellent Work Accomplished by Able and Enthusiastic Believers in the Cause.

September 28, the date of the opening session of the third National Good Roads Convention, dawned bright, clear and glorious at St. Louis. Delegates from twenty-five states and the District of Columbia gathered promptly at the opening hour in the convention hall of the Coliseum. At 10 o'clock sharp Chairman George C. Diehl gave the call to order, and in suitable phrases introduced Lewis R. Speare, the distinguished president of the American Automobile Association, who gave an opening address of more than usual merit. Response was made by Governor Hadley, his topic being, "Welcome to Missouri." He was in excellent fighting mood and took occasion to comment on the railroads. That the railroads traversing the state could make many improvements, so far as concerns transportation, was evidently not unknown to the governor, and he did not mince words in expressing his opinion.

He charged that the rates were not only unjustly fixed, but that the charges for transportation have been scheduled without reference to cost and have been "fixed as high as the tariff will bear." This, the executive further charged, was done for but one purpose, that of "enabling certain industrial centers to sell goods in certain territory and to enable the products of certain territory to reach certain markets."

Governor Hadley stated that there was an annual waste of \$250,000,000 through the farmers' use of poor roadways. The cost of hauling produce from a farm five miles from Jefferson City equals the cost of shipping the same by rail from Jefferson City to St. Louis, 125 miles. With this \$250,000,000, said the governor, the roads of the United States could be paved without exception with the best rock roadbed in the space of ten years.

"Transportation by the railroads is capable of much improvement," said Hadley, "but imperfect, unfair and discriminatory as is the service and charges of the railroad companies, they are far in advance of the service provided over the country roads by the people themselves."

"We have seen in the last twenty-five years a steady drift of population from the farms to the cities. The conditions of life in the country must be improved if we are to get the people back to the farms, and the best way to bring about an improvement in the conditions of social life of the country is to improve the country roads."

"The American people have been indifferent to the necessity of a proper conservation and use of our great natural resources and the proper protection of the lives of that portion of our people who are engaged in the dangerous and hazardous occupations. But in no particular have the American people demonstrated their reckless indifference to that which affects most vitally their prosperity and their welfare than in their failure to build good roads."

Mayor Frederick H. Kreismann followed the governor and welcomed the 300 delegates in behalf of the city. He called attention to the splendid condition of St. Louis' thoroughfares and compared them favorably with those of many of the larger cities of the United States and Canada.

Other addresses of the morning were by J. C. Travilla, street commissioner of St. Louis, on "City Streets and Boulevards," and C. O. Raine, master of the Missouri State Grange, on "The Grange and Its Attitude Toward Good Roads."

Spends \$1,500,000 Yearly.

A paper prepared by Dr. F. L. Bartlett, of Denver, president of the Chamber of Commerce, was read at the afternoon session. The topic was "High Altitude Roadways." Dr. Bartlett stated that nearly \$1,500,000 annually was expended in building and maintaining roadways throughout Colorado, many of which are so constructed as to be impervious to rain or snow, and that out of Denver alone there are twenty-six driveways, modern in every respect, leading to the foothills, into the mountains, through farming country and elsewhere. Dr. Bartlett also called attention to work now being carried out by his state's highway commissioners, by which "trunk line" highways will connect all counties in Colorado and reaching to the boundary lines on either side.

"Modern Road Construction in the United States" was the topic of an extended paper by Maj. W. W. Crosby, Baltimore. Mr. Crosby said that since 1894, when New Jersey and Massachu-

setts commenced modern roadway construction, the development of such work throughout the country had been very rapid and was steadily increasing year after year. In the matter of surface construction the best practice in the United States is considerably in advance of the foreign, the speaker explained, and in the variety of materials used, in development of methods for using same and in recognition of proper principles to be followed, the engineers of the United States can give pointers to the foreign engineers.

Harold Parker, chairman of the Massachusetts Highway Commission, read a paper on "State Roads to Meet Modern Traffic Conditions." The speaker said that wherever good roads existed large numbers of automobiles were found. That good roads made the homes of the farmers more accessible, and have caused the habitation of many farms that prior to improvement of roadway facilities had been practically abandoned. He contended that the automobile had done more to increase good roadways throughout the United States than anything else.

Convicts Build Roads.

Joseph Hyde Pratt, Chapel Hill, N. C., read a paper on "Convict Labor in Public Road Construction." He said convict labor could be credited with hundreds of miles of roadway construction in various sections of the South. Mr. Pratt stated it was not a question of the South wanting good roads, but, inasmuch as there were few large cities in that section of the country, necessitating the bulk of funds coming from the rural districts, it was a question of how the South was to get such roadways. He declared that being at work in the open country air, and camping under sanitary restrictions, would do more to maintain the health of the convict than being confined behind prison walls. That road-building was about the only practical manner in which the southern states could employ the time of its convicts without conflicting with free labor in manufacturing pursuits as was being done at this time.

The final address of the day was by the veteran secretary of the League of American Wheelmen, Abbott Bassett, who claims credit for having inaugurated the first steps in the direction of improved roadways in all parts of the United States. Various statistics were quoted by Secretary Bassett to prove his contentions.

SECOND DAY, SEPT. 29.

Thursday morning Chairman Diehl called the convention to order and introduced F. E. Lott, of Kansas City, whose address was "Across Missouri Highways." As an argument for improved highways Mr. Lott, who is vice president of the Kansas City Automobile Club, told the delegates that two-thirds of the members of the club had been arrested for speeding.

"If there had not been a dearth of good roads outside Jackson county," said he, "we could have done our speeding somewhere else."

"Kansas City has just passed through a speed spasm. Two-thirds of the members of the Automobile Club are busy explaining to 30 new motorcycle policemen that their speedometers were not working or that their tail-lights were jarred out. The other third, who are lawyers, are occupied in defending their fellow members in police court."

"The reason why I escaped to attend this convention is that my automobile, which was listed in the catalogue as having a speed of 60 miles an hour, proved capable of only 15 miles."

Mr. Lott was followed by Arthur H. Blanchard, of the engineering faculty of Brown University, Providence, R. I., who gave a most interesting talk on "The Dustless Roads of Europe."

James Hyde Pratt, state geologist of North Carolina, rose fully to the romance of the occasion in his delightful descriptions in his "Crest of Blue Ridge Highway," and equally appropriate were the remarks of Walter Wilson Crosby, chief engineer Maryland Geological Survey, Johns Hopkins University, Baltimore, on "Modern Road Construction in the United States." Other speakers were Harold Parker, chairman of the Massachusetts Highway Commission; Austin B. Fletcher, chief engineer of San Diego County, Cal.; J. D. Clarkson, Carthage, Mo., and W. L. Raeder, of Wilkesbarre, Pa.

In the afternoon the delegates took the harbor boat Erastus Wells for a trip down the river. A most enjoyable trip it was, too, ample time being allowed for inspecting the bridges and government work. Refreshments were served aboard the steamer and the tired but well-satisfied participants in the excursion arrived safely at their hotels in the city at about 6:30 o'clock.

THIRD DAY, SEPT. 30.

On Friday the convention was opened in the morning by Samuel D. Capen, president of the Automobile Club of St. Louis, whose able address was on "Highway Laws for Missouri." The same topic was discussed by Hon. George W. Humphrey, state senator and speaker pro-tem, Shellina, Mo., whose remarks indicated that he had given his subject diligent study.

The master of the National Grange, N. J. Batchelder, spoke with evident familiarity with his subject, on "Farmers' Interests in Improved Highways," and was followed by George S. Ladd, special lecturer of National Grange, on "How Good Roads Will Increase the Farmer's Prosperity."

"National Aid for Good Roads" was the subject of a good talk by Congressman D. R. Roberts, of Logan, Utah, and Abbott Bassett, secretary of the League of American Wheelmen, told of "When the Road Question Was Young."

Poor roads were traced from the time of "Shamgar, son of Arath," as told in the Bible, through the stages of Carthage and Roman history, down past the early American days.

"Out of the sorrow of the wheelmen came good roads," Mr. Bassett declared. "The horse knew, but he never told, and the wheelmen found out, pondered and started the building of good roads."

Others speakers were: James H. Cowles, secretary Postal Progress League, on "Experimental Auto Post Coach;" W. L. Alexander on "Roads in the Northwest;" and S. P. Hooker, chairman State Highway Commission, Albany, N. Y., on "Continuous and Systematic Road Maintenance."

Afternoon Session.

Chas. Ross, street commissioner at Newton, Mass., opened the afternoon session with a practical address on "Surface Treatment for Various Roads." On Friday afternoon also the convention listened attentively to a good treatment of the subject, "Park Roads," by John R. Eaklin, engineer Metropolitan Park Commission. Logan Waller Page, from his authoritative position as director of the United States Office of Public Roads, delivered a very convincing argument on the subject, "Road Administration and Maintenance."

The speaking concluded with a clean-cut description of "The Dustless Roads of California," by Austin B. Fletcher, chief engineer of San Diego County, Cal. The meeting now resolved itself into a business session and the necessary details were promptly grappled with and disposed of in due order. Atlanta was chosen as the next meeting place, and the executive committee, the name of the members of which will be found elsewhere, was appointed to take charge of the affairs of the association for the coming year.

After adjournment special trolley cars were placed at the disposal of the visitors, the headquarters or meeting place being at the Planters' Hotel. Everybody was on hand and in good humor and a most instructive route through the finest residence districts of St. Louis had been selected. The trolley ride on Friday was therefore voted a complete success, and the fact that the trip included a visit to and inspection of one of the biggest, finest and best breweries in St. Louis, did not detract from its enjoyment. The life-saving station of this big brewery possessed a peculiar charm for a majority of the sight-seers, many of whom showed a desire to continue the process of being rescued indefinitely. The hotels were reached about 5:30, the 1910 convention was at an end, and the delegates soon began taking their trains for home, hoping to reach there safely in time for a good Sunday rest.

The Executive Committee.

Geo. C. Diehl, Buffalo, N. Y., chairman A. A. A. Good Roads Board; N. J. Batchelder, Concord, N. H., master of the National Grange; Chas. S. Barrett, Union City, Ga., president Farmers' Union and Co-operative Association; Logan Waller Page, Washington, D. C., director of the United States Office of Public Records; L. H. Kittredge, Cleveland, Ohio, president the National Association of Automobile Manufacturers; R. D. Chapin, Detroit, Mich., chairman N. A. A. M. Association; S. D. Waldon, Detroit, Mich., N. A. A. M. Good Roads Committee; Alfred Reeves, New York City, general manager Association Licensed Automobile Manufacturers; Fred Atwater, Bridgeport, Conn., president American Wheelmen; C. J. Butler, Detroit, Mich., Motor and Accessory Manufacturers; Harold Parker, Boston, Mass., state highway commissioner of Massachusetts; S. Percy Hooker, Albany, N. Y., highway commissioner of New York State; Lewis R. Speare, Boston, Mass., president American Automobile Association; Robert P. Hooper, Philadelphia, Pa., vice president A. A. A.; A. G. Batchelder, New York City, chairman A. A. A. Executive Committee; Chas. Thaddeus Terry, New York City, chairman A. A. A. Legislative Board.

The Attendance.

George C. Diehl, Buffalo, N. Y.; Robert E. Lee, J. H. Gundiach, Roy F. Britton, Hugh K. Wagner, Edw. M. Flish and Sam D. Capen, St. Louis; F. W. Buffum, Louisiana, Mo.; Lewis R. Spence, Boston, Mass.; Robert P. Hooper, Philadelphia, Pa.; A. G. Batchelder, New York City; Logan Waller Page, Washington, D. C.; Joseph Hyde Pratt, Chapel Hill, N. C.; Maj. W. W. Crosby, Baltimore, Md.; Robert W. Spangler, Gooding, Idaho; A. H. Blanchard, Providence, R. I.; James C. Travilla, Clarkson Carpenter, C. H. Albers, Edgar R. Rombauer, Sam Plant, Rolla, W. Hess, M. N. Sale, Thomas F. Fauntleroy, G. H. Schollmeyer, C. M. Smith, Dewey Hickey, E. G. Clayton, W. C. Capen, E. C. Knisely, W. Frank Carter and John E. Bishop, St. Louis; S. Boyer Davis, Philadelphia, Pa.; Goodman King, Alden H. Little, Edward Hidden, Gus. T. Coleman and Bob O. Wagner, St. Louis; L. A. Kemucott, Chicago, Ill.; E. L. Powers, New York City; V. B. Stewart, Gaty Pallen and Temple C. Emory, St. Louis; A. H. Johnson, S. B. Turman, W. W. Orr, J. M. E. Hoxey and S. D. Brady, Atlanta, Ga.; C. P. Allen, Denver, Colo.; Ralph W. Smith, Denver, Colo.; S. D. Foster, Pittsburg; B. F. McMillan, McMillan, Wis.; F. J. Kersting, Columbia, Mo.; W. H. Basler, Leavenworth, Kan.; Frank P. Ewins, Kansas City, Mo.; W. A. Heyl, Pittsburg, Pa.; George H. Carter, Marlin, Tex.; A. B. Cummins, Parkersburg, W. Va.; E. N. Burch, Raton, N. M.; A. J. Davis, Kirkwood, Mo.; T. J. Thaxton, F. Schmitt, N. H. Davis, F. H. Heileman, Porter Pickett and W. Heathmann, St. Louis; Herbert Spencer, New York City; T. L. Waggener, Colorado Springs, Colo.; B. A. Briggs, Colorado Springs, Colo.; H. L. Vredenburg, New York City; H. V. R. Palmer, New York City; W. R. Benson, William H. Berkelbach and William H. Brooks, Philadelphia, Pa.; J. W. Scott, Venice, Ill.; P. C. Avery, Milwaukee, Wis.; Walter Hempelman, Mont. Schuyler, George Pallen, Andrew Sheridan, Abrams and George Stroup, St. Louis; John Bogart, New York City; E. T. Heller and W. L. Raeder, Wilkesbarre, Pa.; J. P. King, Newark, N. J.; R. W. Sanders, Cincinnati, Ohio; S. Boyer Davis, C. W. Bayliss, Philadelphia, Pa.; Charles L. Hall, Chattanooga, Tenn.; John H. Marshall, Kansas City, Mo.; J. H. Weeks, Howard, Longstreth, Philadelphia, Pa.; Abbott Bassett, Boston, Mass.; Charles W. Ross, Newton, Mass.; W. R. Wilson, Saratoga Springs, N. Y.; L. W. Page, Washington, D. C.; Morris F. Fox, Chicago, Ill.; A. H. Blanchard, Providence, R. I.; G. L. Ladd, Sturbridge, Mass.; C. S. Severnson, St. Louis; Edward S. Hart, Webster Groves, Mo.; G. T. Wyatt, Olmstead, Ky.; Joseph Hyde Pratt, Chapel Hill, N. C.; George H. Harrison, New Orleans, La.; C. McNeill, St. Louis; Orin Hudson, Richmond, Cal.; Thomas M. Roche, Chicago, Ill.; F. Pohl, G. A. Nieman and Frank Jennings, Venice, Ill.; Bernard Adler, St. James, Mo.; W. F. P. Mills, Denver, Colo.; Wm. J. Peck, St. Louis, Mo.; R. N. Bodine, Paris, Mo.; J. P. Green, Clarksville, Mo.; H. C. Allen, Clinton, Mo.; A. W. Sanders and C. D. Campher, St. Louis, Mo.; C. A. Kenyon, Indianapolis, Ind.; Julius Postel, Arthur C. Hagist and Peter W. Lill, Mascoutah, Ill.; George Parsons, Cairo, Ill.; C. M. Cottam, St. Louis, Mo.; J. L. Agganam, Chicago, Ill.; P. S. Marquis, St. Louis, Mo.; B. M. Smith, Chicago, Ill.; E. B. Gregory, St. Louis, Mo.; John L. Cox, Murphysboro, Ill.; H. C. Sanford and Alfred Fiske, St. Charles, Mo.; Judge Selden P. Spencer and Cecil Kitchen, St. Louis, Mo.; J. E. Chadwick, Montgomery, Mo.; J. B. Conner, Albia, Ia.; Roy Campbell, St. Louis, Mo.; Judge Joe Asher, Little Rock, Ark.; M. N. Powell, Troy, Ill.; P. M. Milner, New Orleans, La.; Mark Ewing, St. Louis, Mo.; S. E. Waggoner, St. Louis, Mo.; E. P. C. Harding, Jefferson City, Mo.; Joseph Pope, Jefferson City, Mo.; Theodore Mark, St. Louis, Mo.; H. B. Denker, St. Charles, Mo.; J. D. Adams, Indianapolis, Ind.; Hiram G. Hall, Minneapolis, Minn.; J. Y. Johnson, St. Louis; Dr. I. S. Berry, Batchtown, Ill.; M. Mohlenbrock, Campbell Hill, Ill.; Alexander F. Jenkins, Baltimore, Md.; H. H. Steed, St. Charles, Mo.; A. H. Schone, St. Charles, Mo.; H. A. Canedy, Troy, Ill.; Norman J. Coleman, St. Louis, Mo.; R. C. Morris, Troy, Ill.; Chris Busse, Troy, Ill.; Albert W. Happy, St. Charles, Mo.; W. W. Deberhard, Chicago, Ill.; H. C. Dallmeyer, St. Charles, Mo.; Dr. J. P. Sheppard, Little Rock, Ark.; S. G. Woodsmall, Little Rock, Ark.; C. M. Philpot, Pine Bluff, Ark.; Frank Nichols, Little Rock, Ark.; Martin Sharp, Little Rock, Ark.; J. M. Hockmuth, Jr., St. Louis, Mo.; C. N. Alexander, Little Rock, Ark.; E. J. Hahn, Little Rock, Ark.; George Parsons, Cairo, Ill.; Jesse B. Kirten, Little Rock, Ark.; E. A. Kingsley, Little Rock, Ark.; F. S. Lighthall, Chicago, Ill.; M. D. L. Coon, Little Rock, Ark.; O. W. Childs, St. Louis, Mo.; Louis K. Hyde, Plainfield, N. J.; John H. Louderman, Jr., St. Louis, Mo.; C. A. Blair, J. D. Clarkson and C. B. Guinn, Carthage, Mo.; E. A. Gessler, O. L. Halsey, C. A. Tuiles, Whitfield Russell, Allen S. Miller, Howard E. Nichols and James Hagerman, St. Louis, Mo.

Convention Comment.

Chas. D. Ross, the eminent road builder of Newton, Mass., says that road traffic should be divided into three parts; the auto to have the center, and the horse-drawn vehicles being compelled to use the sides only.

Everybody agreed that all sorts of vehicles traveling a public road ought to show at least front lights at night.

Reckless driving of horses was severely censured and declared to be as bad or worse than reckless driving of motor cars.

Bernard Adler, of St. James, Mo., spoke on good roads as a means of internal defense in times of war.

One speaker declared that it costs the American farmer on bad roads about 25 cents to haul a ton of his products one mile, and that European farmers do the same work for one-third as much.

S. B. Turman and William Wooten Orr were a pair of determined boosters from Atlanta, Ga.

Howard Longstreth, of Philadelphia, had just returned from Brussels, Belgium, where he had gone as the A. A. delegate to International Good Roads Congress.

The St. Louis Cycling Club gave a banquet Wednesday evening to Abbott Bassett, secretary of the League of American Wheelmen, at the Mercantile Club. Mr. Bassett has served for many years

and has frequently commended the St. Louis club for preserving the old-time bicycling spirit. The toastmaster was Capt. Robt. E. Lee.

More than forty manufacturers of road-making machinery were represented by exhibits shown at the Coliseum.

Registration headquarters were located at the Planters' Hotel, where most courteous attention was given to all visitors by the capable attendants in charge.

All states not at present having a Board of Highway Commissioners will be requested to appoint one at the coming session of the legislature.

It was urged that laws be passed compelling lights to be used on all rubber-tired vehicles one-half hour after sunset and one-half hour before sunrise.

A brilliant banquet was given to the delegates to the Good Roads Convention at the Planters' Hotel by the Automobile Club of St. Louis and the American Automobile Association, which 150 good roads enthusiasts attended. The banquet hall was elaborately decorated with flowers and the banners of the Automobile Club were hung about the walls.

Methods of seeking increased federal and state appropriations were widely discussed, along with other measures for general efficiency.

George R. Carter, of Marlin, Tex., told in graphic manner how they talk good roads in Texas. He says a half dozen or more motor cars are sent on scheduled tours through a radius of thirty miles or more of their cities. The tourists carry a complete moving picture show with thousands of feet of films, depicting hair-raising, breath-taking scenes along the public highways—also showing methods of making good high roads, and comparisons with the unimproved mud roads. The little talk about good roads is slipped in between films and general education and spread of the movement results.

A course of instruction in the grades of public schools relative to the danger of playing or walking in roads by children was recommended as a means of lessening the mortality list as the result of accidents.

One Woman Delegate.

Mrs. Joseph Asher, of Little Rock, Ark., the only accredited woman delegate to the national convention of the National Good Roads Association, asked that the women of America take a more active interest in the movement of bettering the roadways. Mrs. Asher is the wife of Probate Judge Asher, president of the Arkansas association and head of the state delegation.

MARQUETTE QUARRY BUSY.

Marquette, Mich., Sept. 15.—The demand for crushed rock in this city and vicinity has grown to such proportions that the production of crushed stone has become one of the prominent industries here.

One of the newest plants to be built and equipped is that of Lipsett & Sinclair, located in the southwest part of the city, near Hotel Superior. This firm employs about thirty men at present in the quarry and plant and they find a ready market for their product in Detroit.

Lipsett & Sinclair are particularly fortunate in having a large supply of what the United States government experts have declared to be as good as any rock in Michigan for street making purposes. At the present site, without moving the machinery, there is enough rock in sight to last at least ten years. The crushing plant having been built at the foot of the rock bluff, all that is necessary is to break off the pieces of rock and haul them on level ground to the crusher. Dynamite is used to break up the rock in the first instance, and to get the large pieces down to size for the crushing machine the rock is heated with fire and water poured on, which causes all the seams to open, making it an easy task to break up the boulders with a heavy hammer. Hand drills are now used, but in another season air drills will be installed.

The crusher is a Symons, manufactured by the T. L. Smith Company, of Milwaukee, Wis.

Only the smaller sizes of rock, such as are used for resurfacing and finishing streets and roads, are manufactured at the Lipsett & Sinclair plant. Less expensive rock can be used for foundation street work, and there is but little demand for material of this excellent quality in the larger sizes. To manufacture dust for top dressing, a disc crusher is used, into which is fed rock that has already gone through the larger crusher. Most of the rock manufactured, however, goes through but the one machine.

The firm of Powell & Mitchell, of Marquette, Mich., has secured the contract for furnishing and placing the granite rip-rap at the upper entrance to the Portage ship canal, near Superior, Wis. Their bid was \$1.89 per ton, while the other bids received, ranged from \$1.92 to \$2.55 per ton.

DYNALITE

Its Rapid Progress this Year — Now Shipped Into Nine Different States — Water Grade Meeting with Success.

Dynalite met with some degree of favor from the beginning of its having been placed on the market about five years ago, but had the experience of all new and valuable inventions, in that it was received by the public with caution as well as with a large degree of skepticism. Man is suspicious of innovations and improvements, and the old adage holds true today, "If you hope to improve this world first look to be reproved," was fully illustrated in the introduction of Dynalite. Now that proof has been furnished of its merits, it is received with more confidence, and time has shown that it has come to stay. The successful introduction of this explosive was obtained not only by its merit, but by continuous and persistent effort, in face of what seemed at times close to insurmountable obstacles, in the way of prejudice.

Some blasters are careless in regard to keeping up the strength of their batteries; their lead wires and the use of good exploders. When, from such cause, poor success is obtained, the tendency is to lay the fault to the explosive, whereas, were sufficient investigation made, the fault would be correctly and properly located.

Dynalite this year, especially, has made rapid progress and the manufacturers of this high explosive are facing a bright outlook for 1911. Dynalite is now shipped into nine different states from the Amherst, Ohio, mills. The company is making improvements for more rapidly and more conveniently turning out large quantities of the explosive.

The water grade of Dynalite was placed on the market this spring. It has proved a great success, being a powerful high explosive.

One contractor who is putting in a tunnel stated that his bottom holes were drilled 3 feet, which was the full depth he could blow out with any other explosive, and with the Water Grade Dynalite he found that his blasting broke the material 2 feet further than the holes were drilled, doing away with pick work, as the material was left ready to shovel into the cars.

The American Dynalite Company, with offices at Elyria, Ohio, who are the sole manufacturers of Dynalite, have requested us to state that they are willing to prove up Dynalite against any other high explosive, to test for contracts, which may be made in any territory which they can reach with a reasonable freight rate on their product, and further state that inquiries addressed to them at Elyria, Ohio, will receive prompt and careful attention.

SPRINGFIELD PAVING NEWS.

Springfield, Ill., Oct. 21.—James Kelley of Morrison has a \$20,000.00 contract for paving portions of various streets in that city.

The city engineer at Bloomington has been ordered to prepare estimates for paving Evans and Grove streets in that city with brick.

The Illinois Cement Construction Company of Springfield was awarded the contract to pave Leafland avenue in Decatur for \$17,464.00. S. A. Tuttle of Decatur will pave North College for \$16,819.00.

Earl B. Swan of Alton will lay 20,000 yards of concrete paving on Ferguson avenue in East Wood River.

O. T. Dunlap of Edwardsville has been awarded the contract for paving Morrison Avenue, Collinsville. The job is to be a concrete mixture with a sarcu binder and a base of four inches of concrete, together with combination granitoid curb and gutter.

BARN AT STONE QUARRIES BURNED.

The Brokensword Stone Company, of Bucyrus, Ohio, of which S. M. Hall is secretary, suffered a serious loss by fire Thursday evening when their large barn at the quarries near Spore, together with the contents, was consumed.

An amendment to the articles of incorporation has been filed with County Recorder Holm, of Davenport, Iowa, by the Linwood Quarries Company, in which it increased its capitalization from \$10,000.00 to \$40,000.00. The company is planning to make extensive improvements on its plant at Linwood in the near future, the exact nature of which will be announced by the management later.

SECURITY PORTLAND CEMENT

(Annual Capacity 700,000 Bbls.)

**BERKELEY HYDRATED LIME**

(A 20th Century Product)

BERKELEY LUMP LIME

(Carbonate of Lime 98.28%)

For Building, Chemical and Agricultural Purposes.

BERKELEY RUN OF KILN LIME

(For Agricultural Purposes)

BERKELEY GROUND LIME

(Fresh Burned Lime Uniformly Ground)

BERKELEY GROUND LIMESTONE

(For Manufacturing and Agricultural Purposes)

**FLUXING STONE FOR BLAST AND OPEN HEARTH FURNACES**

(Silica Less than 15 Per Cent)

CRUSHED STONE

(All Sizes)

For Railroad Ballast, Road Work, Concrete and General Building Work.

SECURITY CEMENT & LIME CO.

WESTERN OFFICES:

OLIVER BUILDING, PITTSBURG

MAIN OFFICES: EQUITABLE BUILDING, BALTIMORE

**Sampling Universal Portland Cement**

four hundred and fifty times an hour as the finished product leaves the mill is one illustration of the thoroughness and care exercised at every stage in its manufacture. Our method of obtaining fair samples by means of an automatic device which removes from the conveying belt entering the storage bins a certain quantity of cement every eight seconds, was originated and is employed exclusively by this Company.

Universal Portland Cement Co.

Chicago—Pittsburg

Annual Output 8,000,000 Barrels

SALES OFFICE:
Liggett Bldg., St. LouisSALES OFFICE:
Long Bldg., Kansas City

MANUFACTURED BY

Union Sand & Material Co.ST. LOUIS
Liggett Bldg.KANSAS CITY
Long Bldg.MEMPHIS
Tenn. Trust Bldg.**THE Standard Brands**OF
PORTLAND CEMENTLightest in Color
Highest Tensile Strength**ALWAYS UNIFORM**

Always the same high quality. Prompt shipment guaranteed and made possible, as each mill is located within switching limits of the two greatest railroad centers of the West. You are assured of your orders being promptly filled.

THE
STRONGEST PAPER BAG
MADE

The West Jersey Bag Co.

Tell 'em you saw it in ROCK PRODUCTS

The National Kellastone Roofing Company

With General Offices at 299 Broadway, New York City, (After November 10th)

Is Now Ready to Take Kellastone Roofing Contracts in Any Part of the United States

15 Factories for the Manufacture of Kellastone Products Now Under Construction

At Last—the World's Greatest Need—A PERFECT ROOF

KELLASTONE

A monolithic roof with a crushing and tensile strength far superior to Portland Cement Concrete,
ABSOLUTELY FIRE PROOF AND WATER PROOF
 THE MODERN ROOF—ELASTIC, ECONOMICAL, RESILIENT, DURABLE

A KELLASTONE ROOF WILL LAST A LIFETIME

A roof with NO seams, NO joints, NO laps, NO nails, NO coal tar, NO asphaltic compounds, NO gravel, NO waterproofing cements. A roof of unusual density, amazing elasticity, strong, tough and resilient, weighing only two pounds per square foot. Can be applied to any kind or form of structure as a plane surface, or if desired, with shingle or tile effect.

U. S. KELLASTONE COMPANY, HOME OFFICE: TERRE HAUTE, IND.



MILL:
 Kosmosdale,
 Kentucky



Kosmos Portland Cement Co.

RELIABILITY

C
O
L
O
R

WAR DEPARTMENT
 ENGINEER OFFICE, UNITED STATES ARMY.

Nashville, Tenn., February 20, 1909.

KOSMOS PORTLAND CEMENT COMPANY,
 Louisville, Ky.

Dear Sirs:—Replying to yours of the 12th instant, I beg to advise you that our records show that 22,250 barrels of Kosmos cement were received at Hales Bar, Tennessee River, for the lock under construction at that point, between June 23 and September 25, 1908. All of this material was tested and all of it accepted under the requirements of the Engineer Department specifications.

Very respectfully,
 WM. W. HARTS,
 Major, Corps of Engineers

A Destructive Fire Prevented the Completion of the 100,000 Barrel Contract. The Rebuilt Mill is Fire-Proof.

It is universally recognised that no tests are more exacting than those of the War Department. A record of uniform acceptance, such as the above, is the best assurance to the purchaser of the unvarying quality of KOSMOS cement. It is a FACT—more convincing than any amount of TALK.

ASK FOR QUOTATIONS

Kosmos Portland Cement Co.

S
T
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E
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G
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H



SALES OFFICE:
 Paul Jones Building,
 Louisville



Tell 'em you saw it in ROCK PRODUCTS

THE QUALITY THAT NEVER FAILS

Trinity Portland Cement

Your Cement needs can be supplied efficiently.

Daily capacity, 4000 barrels. Write to-day.

Southwestern States Portland Cement Company

GENERAL SALES OFFICE: 611 WILSON BUILDING

DALLAS, TEXAS

MEACHAM & WRIGHT COMPANY

CEMENT

CHICAGO

CLINTON METALLIC PAINT CO.

CLINTON, N. Y.

LARGEST AND OLDEST MANUFACTURERS OF

**BRICK AND
MORTAR**

COLORING


Be sure you get the genuine with the "Little Yellow Side-Label"
on each package.

Let us tell you about Side-Walk Black.

How Superior Sets

One of the secrets of success of Superior Portland Cement lies in the way it sets. It is a happy medium in this respect between the quick and the slow. It may be counted upon never to misbehave in any class of construction work. Once finally set, it proceeds to harden to adamant. Being very low in magnesia—only a fraction of 1%—Superior Concretes do not disintegrate under the effects of moisture. After drying out, they neither expand nor contract, while their toughness and hardness resist strain and pressure without a budge. This is why we say and prove in Booklet "C-7" that "Superior Endures."

Union Trust Building, Cincinnati, Ohio
The Superior Portland Cement Co.



— 1% —

Have you used the new concentrated

MAUMEE COMPOUND


for Waterproofing Cement?

One per cent makes cement impervious to moisture, and costs one-half less than two per cent compounds.

Write us for information, samples and prices

THE MAUMEE CHEMICAL CO.

403 St. Clair Building, TOLEDO, OHIO



SEE OUR EXHIBITS

NEW YORK CEMENT SHOW, SPACE No. 132

December 14-20, 1910

CHICAGO CEMENT SHOW, SPACE No. 11

February 17-23, 1911

Tell 'em you saw it in ROCK PRODUCTS

MANGANESE STEEL**Wearing Parts for all Crushers**

MASON SEGMENTAL HEADS
FOR ALL SIZES GYRATORY CRUSHERS
SPUR AND BEVEL GEARING—LONG WEAR AND NO BREAKAGE
STEAM SHOVEL TEETH POINTS and BASES
KOMINUTER PLATES
REVOLVING SCREENS

EDGAR ALLEN AMERICAN MANGANESE STEEL CO.

Works—Chicago Heights, Ill.; New Castle, Del.
General Office—193 Michigan Ave., Chicago, Ill.
Eastern Sales Office—30 Church St., New York, N. Y.

Specify and Use

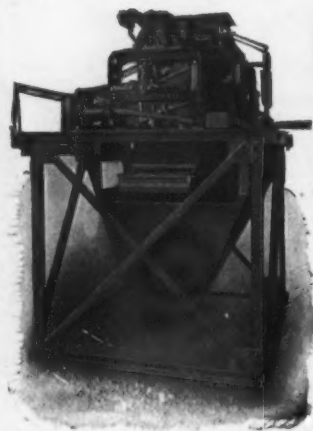
EDISON PORTLAND CEMENT

IT IS FINE

85 per cent thru 200

98 per cent thru 100

Contractors and Cement Manufacturers Need



RICHARDSON Automatic Scales

Because they will earn excellent dividends on important concrete construction work by accurately measuring the cement, sand stone and water in correct proportions by weight. Because in a cement plant they will give absolutely accurate proportions of the raw materials before mixing, a positive check on all coal received, the accurate weight of all coal dust delivered to kilns the exact amount of clinker produced, the correct proportions of clinker and gypsum, a positive record of finished cement delivered to stock bins, and, finally, the dustless, accurate and rapid weighing and packing of the finished product into bags.

Richardson Automatic Scales are the World's standard for Automatic Weighing—more of them are in this country than all others combined. Shall we send the catalog?

RICHARDSON SCALE COMPANY

7-8 Park Row, New York

122 Monroe St., Chicago

BUFFALO WIRE WORKS CO.

BUFFALO, N. Y.

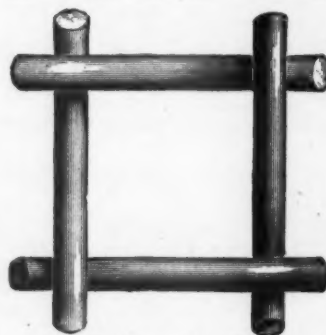
We make

Wire Cloth

From the coarsest to the finest, for all purposes,

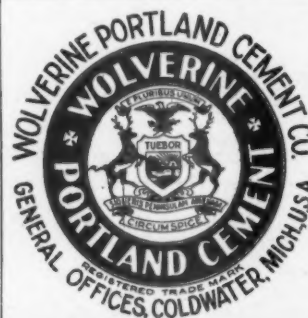
Also

WIRE CONCRETE REINFORCEMENT, WIRE WORK of all kinds, CORRUGATED WIRE "LATHING"



1-Inch Space, No. 4 Wire

Send for Our No. 416 Catalogue.



"WOLVERINE"

The Alright Cement

MADE RIGHT SOLD RIGHT
WORKS RIGHT
WEARS RIGHT

The Best Is None Too Good For You.
Insist Upon

"WOLVERINE"

Write for Booklet and Quotations.
Factories at Coldwater and Quincy, Mich.
Capacity 3500 Daily.

WOLVERINE PORTLAND CEMENT COMPANY

W. E. COBEAN, Sales Agent,
Coldwater, Michigan

Main Office, Coldwater, Mich.

2,000,000 REVOLUTIONS A YEAR FOR THESE WHEELS



FEW buyers of dump wagons ever stop to consider the enormous amount of work done by the wheels in the course of a year. Two million revolutions of a wheel in a year is nothing unusual for a Troy dump wagon, and there are innumerable shocks and jars on the wheel for every turn it makes. This is why our first thought has been to make Troy wheels tougher and stronger than those on any other make of dump wagon.

Our next consideration has been to produce a dump wagon box of equal durability, and to accomplish this end, we found it necessary to make the bottom doors of steel—not of wood lined with a thin skin of iron that soon rusts and wears through.

Combined with the best wheels and the best dump box to be had, we give the best dumping mechanism. This last can be fully appreciated if you will send for and study our catalog No. 2 P.

The Troy Wagon Works Co.

101 East Race St.,

TROY, OHIO

Tell 'em you saw it in ROCK PRODUCTS

Concrete

CEMENT SHOW IN NEW YORK.

Railroads Are Announcing Special Rates Owing to Distinct Business Advantages and Public Benefit.

Of the many trade shows that are held at the present day there is none that should be of interest to a larger class than the Cement Show. The architect, the contractor, the manufacturer, the home builder, the farmer and the mechanic all have a real call to attend. Not only is there something of interest for each, but his attendance will be to him a distinct business advantage. The Eastern Cement Show will be held in New York City, December 14-20, 1910.

Complete Illustrated Lecture for Architects.

The architect of today who has not specialized in concrete oftentimes thinks in terms of his older construction materials. He may realize that with a new material come new possibilities in design or texture. He may gain this knowledge by talking with other men who are engaged in the same line. The Cement Show offers a meeting ground to this class.

Then the architect must study the devices that are used by the contractor to carry out his designs, in order that he may be able to plan economical and successful structures. Certain practices common in the case of stone or brick or wood construction are impossible with concrete. The architect who uses a round arch in concrete work is designing in terms of stone. The architect who plans intricate decoration in concrete should know the contractor's difficulties. We do not have brick or wood shows. People are familiar with such construction. There would be little gained, but the history of concrete dates back only a few years. Men who are building today have not a life long experience with concrete. It has been impossible for those who are not in close touch with building to plan or design in terms of concrete, so there is needed a common meeting ground for the architect, the contractor and the man who builds.

Valuable Suggestions to Home Builders.

The average man at some time of his life builds a home. He has his idea as to what it shall be. He gives his architect general instructions in regard to material and type, but it is just at this point that he needs additional knowledge, if he is to use cement to advantage. He has grown up with construction in wood and brick and stone, but unless he has been especially fortunate he has seen little actual building in concrete, so that in his choice of architectural style, of the type of construction and the material to be used, each of which has its bearing on cost and utility and durability, he has not had the experience with cement construction which is his with the older types of construction. The Cement Show offers the facilities for putting him in touch with the newer concrete construction.

Madison Square Garden, the old historical show building in New York City, will not appear like a noisy and dirty contractor's plant. On the contrary, it will be a neat and orderly department store of the cement industries, offering during the week's exhibition an opportunity which should be most acceptable to those desiring to make a study of any phase of the use and application of cement. Cement, aggregates, reinforcing systems, waterproofing methods, concrete mixers, concrete tile, block machines, coloring compounds, forms, ornamental concrete work and a complete representation of every article and appliance entering into the use of cement will be displayed. The show will be orderly and artistic in the best sense. Every possible effort will be made to make the exhibition as attractive as it is possible to make a show of this character. Two hundred and fifty exhibitors will have displays of vital interest to the trade. For the general public the show will possess many points of educational value; for their entertainment the feature of the show will be the music of Sousa and his band, engaged by the Cement Products Exhibition Co., at a great expense.

To those who have not traveled during the summer the special rates to New York during the Cement Show and the cement gatherings offer a special inducement at this time. Railroads are averse to giving special rates, but the magnitude

of this gathering has made it possible to obtain some special concessions.

While the New York Show is the first to be held in the East its success is assured. The space on the first floor is entirely contracted for. The space in the galleries is fast going. Concrete construction is as important in the East as it is in the Middle West. Three shows have been an entire success in Chicago. The one in New York promises to eclipse the former records.

Reduced Rates.

Attention is called to the fact that reduced rates will be made by the railroads to the New York cement show, December 14-20, 1910, from points as far west as the Mississippi river. Reduced rates to the Chicago show, February 17-23, 1911, have been applied for and action will be taken in the very near future.

SEVENTH ANNUAL.

The Seventh Annual Convention and Show of the Iowa Association of Cement Users will be held in Cedar Rapids, Iowa, January 10-13, inclusive, 1911. The show will be placed in the Auditorium, and the convention program will be held in the People's Theatre, next door to the exhibition hall. Information regarding space and rates may be had upon application to the secretary, Ira A. Williams, Ames, Iowa. From the preparations being made, there is every reason to believe that Cedar Rapids will have the biggest and best attended convention in the history of the Iowa association.

The Lilbourn Cement Tile & Brick Company has been incorporated at Lilbourn, Mo., with \$3,000.00 capital stock, to manufacture tile-brick blocks and drainage tile. L. L. Thompson, president; C. C. Ienberger, vice-president and manager; Oscar Thompson, secretary; M. M. Cravens, treasurer.

The New Process Artificial Stone Company, of Syracuse, N. Y., manufacturers and dealers in all kinds of stone and building materials. Capital stock, \$20,000. Incorporators, Myron J. Hayden, Dean R. Brown, Everett J. Thompson, all of Syracuse, N. Y.

The Nebraska Hydraulic Stone Company was incorporated at Kearney, Neb., capital stock \$25,000.00. The incorporators are W. S. Clapp, E. H. Morey and J. K. Harridge.

BUSINESS WOMEN'S CLUB.

Louisville, Ky., Oct. 20.—One of the most interesting concrete propositions which has developed here recently is the building of the Business Women's Club, now being erected at Fifth and Walnut streets by the National Concrete Construction Company. Gray & Hawes are the architects and they added several features worthy of notice, while from a construction proposition the building is also interesting.

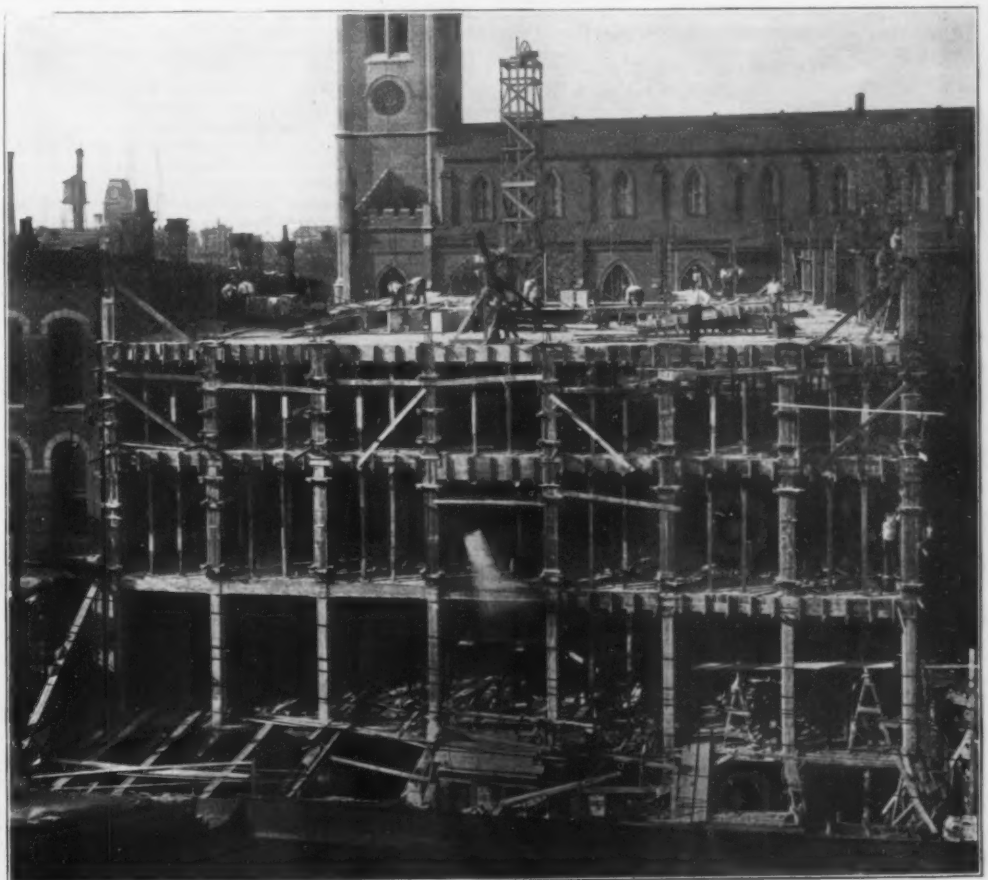
The Business Women's Club is an organization of the younger element of employed women in Louisville, and is backed by many business men and society women, who helped in the work of raising a \$100,000 fund for the construction of the new establishment. It is to be in a way a home, and will contain sleeping rooms and a big dining room which can take care of 1,000 people at luncheon.

A gymnasium, with the addition of lockers and shower baths, will be popular, and educational work will be carried on in specially arranged class rooms. Courses in domestic science as well as business studies will be offered. Stores will be located on the first floor.

The construction is thoroughly fireproof, being of reinforced concrete throughout, with the exception of veneered brick walls. The building will have its own heating plant, and will be equipped with electric elevators, an intercommunicating telephone system and automatic temperature control of the steam heating.

On account of the fact that the building covers the entire lot and adjoining property owners—the site is not on a corner—would not allow their holdings to be used, it was found necessary, in constructing the foundations, to use the cantilever system, the footings being unusually heavy. The footings are 3½ feet high and 5½ feet across, and the cantilever effect was secured by the use of from twelve to fifteen steel rods in each of the footings. Ordinarily the abutments would have been extended out past the property line to secure the necessary support, but, as explained, this could not be done here.

Probably the most interesting feature is that the columns, instead of being reinforced in the usual way, are built on fabricated steel columns, latticed, and with four angles, one on each corner, to hold the concrete. They are 10"x10", and with the concrete in place the columns are 15"x15". The reason for their use is because the comparatively small pro-



BUSINESS WOMEN'S CLUB BUILDING, LOUISVILLE, KY.

portions of the building—it is on a site 75'x105'—made it advisable to have as much floor space as could be gotten out of the lot. Had columns reinforced in the ordinary way been used, a great deal less room would have been secured. The steel columns were made by the Louisville Bridge & Iron Company, of Louisville.

The building is five stories high, and has a basement occupying the entire site. The floors are all five inches thick, while the walls will be of 13-inch brick. The reinforcing of the floors is from beam to beam, $\frac{1}{2}$ " and $\frac{3}{8}$ " steels being used. The stairs are entirely of concrete, including the handrails and newel posts, and are built in the usual way, wooden forms being made and the concrete poured in. No ornamental features have been attempted in this work.

Probably 2,000 cubic yards of concrete will have been used in the building by the time it is completed. The concrete is all mixed in the proportions of 1:2:4, with one-inch gravel provided uniformly. The concrete is handled in a workmanlike manner, being mixed, shot into a bucket containing five yards, hoisted by electricity to the floor where it is needed, turned into a Ransom cart and wheeled to the spot where it is to be laid.

The use of electricity throughout for power has worked out successfully and is much more satisfactory, in the opinion of those on the job, than when steam is used. Owing to the fact that the concrete surfaces will be visible when the building is put into use, it was not advisable to have any coal smoke around, as that would have spoiled the color of the concrete.

Ransom mixers are being used in this work, and Speed cement forms the base of the concrete. The General Fireproofing Company's bars, as well as some of the Truss Concrete Company's output, have gone into the work. The hoist used is a Ransom product.

Work on the building was begun in June, and the concrete part of it will be finished by October 1. Edward F. Kimbel, general superintendent of the National, and John F. Reilly, who is superintendent of the work on this building, have been in charge of the concrete construction, while the brick contract was let to Jake Hoertz.

THE LOZIER MOTOR CO'S PLANT.

Detroit, Mich., Oct. 20.—Manufacturers of motor cars realize the worth of reinforced concrete for building purposes and it can be safely said that there is not an automobile plant in the city but what has made use of this economical and excellent method. The Lozier Motor Company, is now putting the finishing details on its immense plant in the eastern part of the city. This plant, a photograph of which is reproduced herewith, is one of the model manufacturing institutions of the city. Reinforced concrete has been used almost solely in different parts of the construction work. The firm reports being entirely satisfied with the method.

By a vote of Cleveland's city council the height limit of reinforced concrete structures has been raised from eight to twelve stories.

TENEMENT IN SCOTLAND BUILT OF CONCRETE BLOCKS.

Using concrete blocks as building material instead of brick or stone is a custom that has become almost

worldwide. Concrete blocks are now manufactured in every conceivable form that would be an aid in erecting a structure of beauty and strength. There is no monotony in a building built of these blocks, as will be shown by looking at the tenement house shown in the accompanying photograph. This tenement was erected from concrete blocks made by the Century Cement Machine Company's concrete block machine. The blocks used for close imitations of cut stone.

ILLINOIS STATE FAIR CONCRETE DISPLAY.

Springfield, Ill., Oct. 21.—Concrete was accorded a prominent place in the exhibition spaces at the Illinois State Fair, held September 30-October 1, at Springfield. The locations this year were among the best on the grounds and as an indication of the inter-



TYPE OF TENEMENT HOUSE IN GLASGOW, SCOTLAND, BUILT OF CONCRETE BLOCKS.

threatened at times to blockade the main walk with the overflows. The displays ranged from the dealer in bricks to all kinds of machinery and the leading brands of cement.

Carl Beck, of the Universal Portland Cement Company, Chicago, and his five assistants, L. A. Smith, J. H. Case, F. C. LeRose, Edward Quebbman and O. A. Wakeman, were kept busy at their model farm and did a great deal of missionary work besides greeting retailers from three states.

Fidelity of detail in the tiny miniature country place shown by the Atlas Portland Cement Company excited the admiration of thousands of visitors. The application of concrete as a remedy to a tiny tree no larger than a slate pencil, the visible reinforcement in the silo, but two inches across, and the surfaced barn-yard were but a few of the features which caused comment.

Large users of Lehigh Portland Cement attested to the quality of the material in the products shown, and this concern was well-advertised.

Inasmuch as Central Illinois is vitally interested in the land-drainage proposition, more so than other sections of the state, the representatives of the Cement Tile Machinery Company, of Waterloo, Iowa, had their hands full, answering questions, furnishing literature and demonstrating the array of models shown. The firm did a good order business from its temporary office "under canvas."

Martin Rollinger & Co., 1707 South Ten-and-One-Half street, Springfield, had a big display of artistic porch columns, balustrades, capitals, Grecian and Pompeian lawn vases, hitching posts, sills and monuments and headstones.

Colored-faced cement bricks were featured in a small display by H. C. England, a budding manufacturer of cement bricks and blocks at St. Francisville, Ill., who probably will be heard from later. Concrete men who have been struck by the beauty of his products and at the density he has obtained, urged him to have the materials tested at the University of Illinois. The engineering school, interested in the process and description of results obtained, has asked for specimens. Forty-thousand marble-faced brick of this mould have gone into the Brian-McCurdy building in St. Francisville, which soon will be completed.

CONCRETE TURNTABLE.

The Northern Engineering Works, Detroit, Mich., has recently patented a concrete turntable for automobiles. This turntable is supposedly designed for garages, but it is suited also to many other locations and uses. The top is a disk of reinforced concrete, varying in size, to accommodate the length of automobile it is to be used for, from eleven to fourteen feet in diameter. The outer rim and the edges of the pit are both bound with steel angles.

The table is of the conical roller type, a design that is scientifically correct, rollers are chilled and carry the entire weight on machined circular tracks. The rollers cannot rub together, being made to roll in a circle, even if no spider arms were used. There is no rubbing friction between rollers as in ball-bearing designs and no grinding friction to wear on the tracks. The table is so constructed that it does not tip, nor bind at the base, in turning.

Drain gratings, manholes, lifting rings, etc., are furnished with the turntable. The automobile can, with the aid of these, be washed while on the table, and the water drains away through the center pin. The table can easily be put together on upper floors of concrete buildings if it is desired.

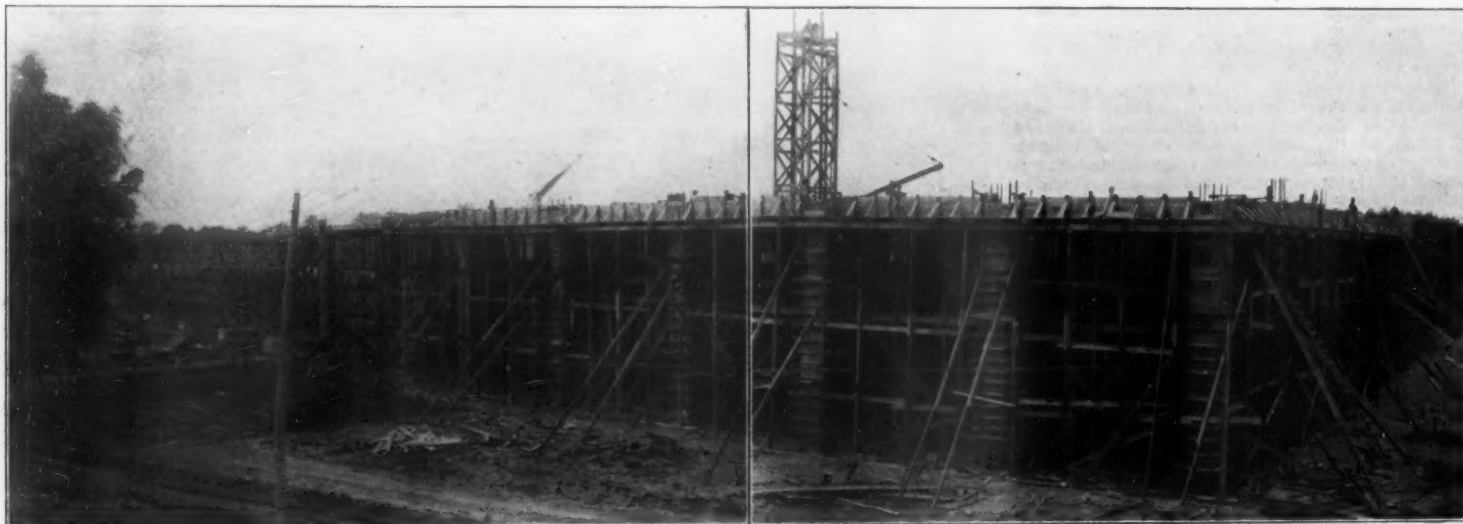
Since the table is so large, when completely set up it cannot be shipped by railroad, and complete instructions, with accompanying drawings, are sent to the local contractor to assist him to install the reinforced concrete work on the ground. As it is usually necessary to install a concrete foundation pit with any kind of table, the contractor can readily form the concrete table-top itself.

The materials used in the construction of this turntable harmonize with the rest of the garage floor, making a handsome and sanitary installation. All the features of the turntable are fully covered by the patent of the Northern Engineering Works.

CONCRETE TIE PLANT SOLD.

The equipment and patents of the National Concrete Tie Company, recently organized in Stockton, Cal., have been purchased by a New York syndicate, for an immense figure, said to be \$17,500,000.00. George Gates, of San Jose, inventor of the tie and its fastener, will be the superintendent. The first factory is being erected and about twenty others will be distributed over the country.

The new hydraulic brick and block plant of Whitney Brothers, at Chippewa Falls, Wis., is being operated to its capacity to meet the demand for its products. Contracts have been secured for furnishing brick and blocks for the new German Lutheran church, besides several residences and store buildings.



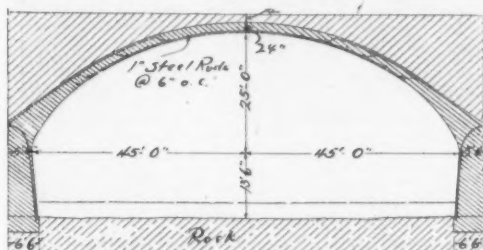
LOZIER MOTOR COMPANY'S FACTORY AT DETROIT, MICH.

MAUMEE RIVER BRIDGE, WATERVILLE, O.

(Continued from Page 3.)

tion of ninety-foot span. With the roadway and copings on a level grade the balancing of unequal spans was accomplished by increasing the fill over crown and decreasing the rise for the shorter spans. Since the crown thickness for fixed loading is approximately proportional to the horizontal thrust, balancing thrusts at piers demand uniform crown thickness in all spans for symmetrical arches. The crown thickness in the crown formula is therefore assumed constant, and the rise and fill determined for the various spans under fixed loading only. Because of the magnitude of this structure the loading was assumed at two hundred tons on two trucks, and crown thickness and piers increased at the request of the Lima & Toledo Traction Co., the purchasers. Otherwise empirical method applies.

Among some of the advantages of the Maumee river bridge, as well as any reinforced concrete bridge, are the fact that concrete bridges are permanent improvements, permanent in that they grow stronger with age, and, being upon comple-



SECTIONAL DETAIL OF ARCHES.

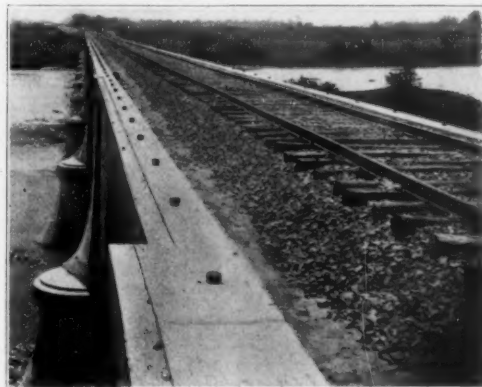
tion the strongest bridges constructed, they become practically indestructible; and they are an improvement in appearance, durability and rapidity of erection. A concrete bridge has no wooden floors that are periodically out of repair; it requires no painting and no repairs, and, as has been demonstrated times without number, as traffic on our highways grows heavier, steel and wooden bridges grow weaker, whereas concrete bridges grow stronger. They are flood-proof, frost-proof, rust-proof and fire-proof, and once built they are built for all time.

The arches of the Maumee River bridge were built under the Luten patents, owned by the Na-



SECTIONAL PLAN OF MAUMEE RIVER BRIDGE.

tional Bridge Company, of Indianapolis. The Luten type of arch requires but a single series of reinforcing members, and is the simplest and easiest type of reinforced arch to erect that has yet been devised. But even this type demands foremen possessing a high degree of skill to accomplish proper construction with economy of cost and handsomely finished appearance. There is perhaps no material that is more susceptible than concrete to the hand of a master workman, nor any that is more easily disfigured and defaced by the unskilled amateur.



MAUMEE RIVER BRIDGE FROM THE SERVICE LINE.



LOOKING UP AT THE GREAT CONCRETE ARCHES.

The Maumee bridge was built by the National Concrete Company, Gaylord Thompson, chief engineer, and under him a corps of the picked men from sixty skilled foremen, eighty assistant foremen and over seven hundred men.

In the loading during the construction of the Maumee bridge all the earth filling was added before striking the centers. The answer to those who would criticize such a design on the ground that it should provide for eccentric loading is that the structure can readily be corrected after completion and before loading, for all that is necessary is to add concrete backing behind the abutments, and the structure can be adapted to such crude methods of filling and loading at the pleasure of the critic for an additional expense of from 25 to 50 per cent of its first cost. Engineers realize the saving when earth filling is properly applied, and therefore the practical ones prefer it to using concrete backing to restrain their arches.

The photograph of the three large arches is a down stream view from the foot of the second pier. The drainage from the above piers is discharged through weep holes below low water. The bridge is of the patented type, and was designed by the National Bridge Co. Work was commenced on it in May, 1907, and completed in January, 1908. The bridge has been in continual use by the Lima & Toledo Traction Co. since that time.

CONCRETE PAVEMENT.

It is gratifying to note that many of the smaller towns and municipalities are specifying concrete pavements and are finding them entirely satisfactory in every respect.

Just why engineers and those dealing with perplexing paving problems have been so slow in recognizing the value of concrete as a paving material is not known, but the fact remains that, in this country at least, it was not until 1893 that a wearing surface, a true concrete pavement, was constructed.

The view shown here illustrates a concrete pavement which was recently completed at Delphi, Ind., by James M. Pierce, a contractor of Delphi. Lon Kirkpatrick, the city engineer of Delphi, had charge of the work and this pavement has proven entirely satisfactory in every respect.

The following method was used in laying this pavement. After the sub-grade had been rolled it was covered with crushed limestone which was rolled to a thickness of four inches. A ten ton steam roller was used. Next a concrete base five inches thick was placed. This was

composed of one part cement to seven parts of gravel, and the surface was left rough. Then a one inch wearing surface of one part cement and two parts sharp sand was put on, floated with a cork float and then trowelled. After it had been trowelled it was gone over with a brush in order to roughen the surface.

To provide an expansion joint, 1 inch by 6 inch boards beveled to one-quarter inch on one edge were placed every 40 feet. These boards extended through the gutters. After the top had been put on, this board was pulled out and when the concrete had set the joint was filled with a tar filler which deadened the noise and kept the water from getting under the pavement.

This pavement was laid on Main street, the business street of the town, and three weeks after it was completed it was in use. At this end of the town the experiment was tried of corrugating the surface but it was found that this was a mistake as the edges chipped off some and so at the east end of the street the surface was floated, then trowelled and brushed. This was found to be far more satisfactory than the corrugated surface.

This pavement was put down at a cost below other standard pavements and the people of the town are very much pleased with it. It is easily cleaned, sanitary, looks exceedingly well and is not as noisy as brick nor near as slippery in wet weather. Universal Portland Cement was used.

CONCRETE TO REPLACE TRESTLING.

The McNichol Paving & Construction Company, of Philadelphia, has been given the contract for replacing the old trestlework at the Philadelphia & Reading railroad bridge across the river above Catawissa with a concrete structure. The concrete job will contain arches to permit the passage of ice and water in flood-time and completely doing away with the expensive repairs required to keep the trestling in a safe condition.

The Rupert end of the railroad bridge and the trestling will be temporarily raised 17 inches, and to do this and erect the concrete substitute without interfering with traffic will be a neat piece of construction work.

The company is getting their machinery on the ground and will start the work as soon as possible. It will be a big job, and with the improvements in the yard and at the roundhouse here it looks as though a considerably increased traffic was being prepared for.

NOVEL DISCOVERY IN TESTING CONCRETE.

In testing the reinforced concrete wall of the Panama Canal with one of the United States 12-inch guns, the solid shot tore through the 8-foot wall, but examination proved that the shot had risen upward steadily and had gone out at the top of the wall. Army engineers believe that a few more feet of concrete would have let the shot out at the top of the wall, leaving no debris and especially no crack in the wall. To carry the idea further, a wider wall would simply catch the shot, deflect it upward and prevent any serious injury to the wall, tossing the shot beyond.



CONCRETE STREET AT DELPHI, IND.

J. M. STUDEBAKER OFFICE BUILDING.

The magnificent building shown in the photograph is known as the J. M. S. Building and was erected for J. M. Studebaker, Sr., at South Bend, Ind., by the H. G. Christman Company, general contractors and builders of South Bend, Ind. The entire construction is reinforced concrete. Omega Portland Cement was used throughout and the same was furnished by C. H. Defrees, a dealer in building material, of South Bend, Ind.

The outside face of the south and west walls is laid up of white enameled terra cotta manufactured by the Northwestern Terra Cotta Co. of Chicago, Ill.

The building has a frontage of 112 feet on Main street and 63 feet on Washington avenue, and is eight stories high.

The first floor is divided into several store-rooms and has a large banking room on the corner. The other seven stories contain 254 office rooms, all of which are furnished with birch and stained mahogany and are modern in every respect.

The building is equipped with two passenger elevators and one automatic push button elevator for night service.

Ground was broken for this building in the spring of 1909, and it was completed in the spring of 1910.

THE CONCRETE HOUSE THAT TOOK THE PRIZE.

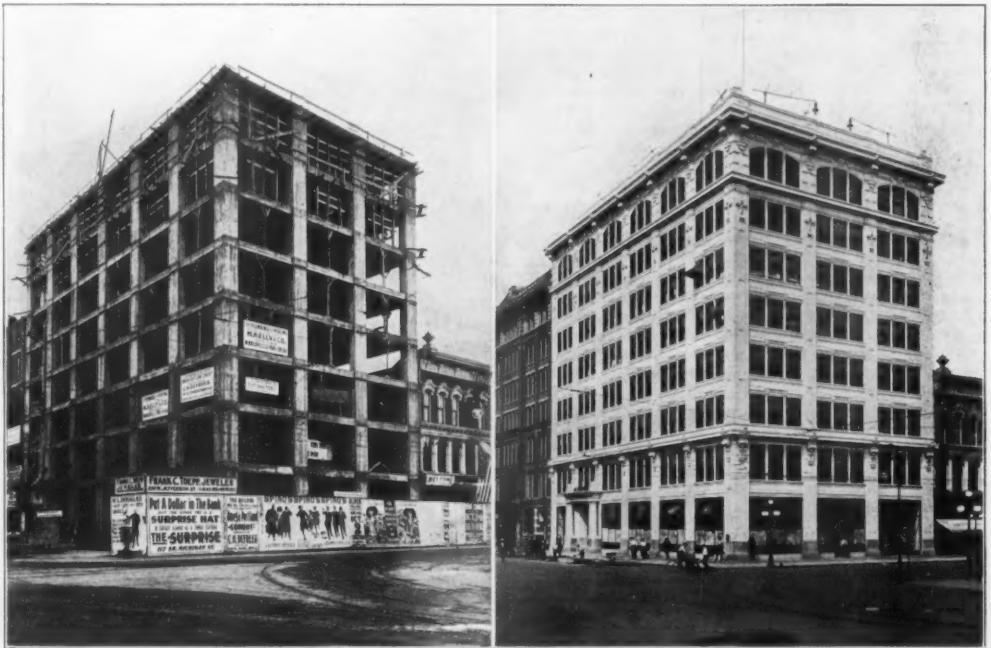
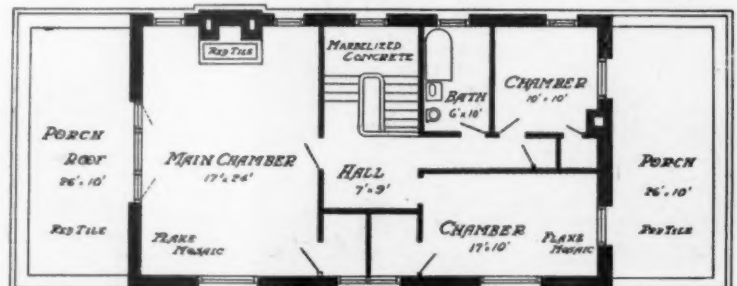
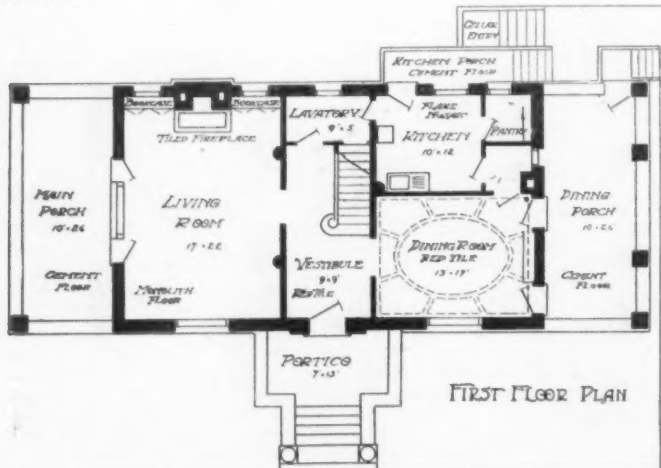
As the prize to the winner in the guessing contest at the Third Annual Cement Show, held last February, in the Coliseum at Chicago, Miss Lillian M. Williamson was given the material for a cement house. She was to build it wherever she wished, but with the materials furnished by the exhibitors. The house is being built in Walden, a pretty suburb of Chicago, and was designed by Francis M. Barton, of Chicago.

Concrete is being used throughout the building, all the walls and partitions being of concrete structural tile manufactured by the Chicago Structural Tile Company, insuring protection and insulation from both heat and cold. They are finished with a rough coat of cement plaster. Every floor and stairway is built following the rules of Mr. Barton's reinforced concrete system. The foundations are of plain, solid concrete. There are two concrete chimneys surmounted with round tops; the roof is of red tile.



PRIZE HOUSE BEING BUILT BY THE CEMENT PRODUCTS EXHIBITION CO.

The house has an entrance portico in the center and a screened porch at each end. The exterior decoration will consist of a simple moulding around the house at the second floor level; and to relieve the plain concrete wall monotony there is a moulded cornice.



THE STUDEBAKER BUILDING, SOUTH BEND, IND., DURING CONSTRUCTION AND COMPLETED.

The house as designed is to contain many interesting features. The living room floor is made of a new composition and is easily kept clean and not unpleasant to the touch. Besides these points, it is softer than either plain concrete or tile. It is decorated with a conventional border and is plain of color. The vestibule and dining room floors are of red tile with one-half inch black joints. The kitchen and the rooms upstairs have floors of flake mosaic, which makes a background to harmonize with the room furnishings. The baseboards are carried up to a border and are all made of the same material as the floor. The two fireplaces have window seats on both sides and there is a hearthstone of red tile in front. There is a large mantel, and this and the fireplace are both made of solid reinforced concrete with a moulded decoration.

It is common now for people to spend three-fourths of the year on their porches instead of in the house. This custom can be gratified by the occupants of the prize house, for it has two spacious porches, one opening off the living room and the other off the dining room. These porches are not connected with the entrance portico, thus giving the full privacy of an interior room with the advantage of screened exposure on three sides. The entrances to the porches are through two large French doors, which when opened make the porch a unit with the inner room.

The house is in every way modern. Nothing has been attempted in structure or decoration which does not harmonize in concrete. The flat arch is used in the doorways and all beams and columns in the house are plainly exposed to view, the aim being to show the value of true concrete construction in the highest example and to show the concrete decoration throughout the building.

IMPROVEMENT IN STYLE OF CONCRETE BLOCKS.

Manufacturers of concrete block machinery are now lending a hand in an effort to educate the general public and also the block makers themselves in the selection of more artistic block designs. The majority of concrete blocks are now made in the imitation "rock-face" form, which is only an imitation of the real rock wall and at best is unattractive to the eye.

When concrete blocks were first invented it was thought they were to be a substitute in shape and form for the rock, but now, when it is known that plain-faced blocks can be made much easier and cheaper, the other style should be done away with. Leaving out the question of appearance altogether, the saving in cost should be a strong argument against the imitation.

Young & Brothers, of Marinette, Wis., have secured a contract for the erection of a double-track bridge for the Chicago & North-Western Railway Company at Ford River. The contract calls for more than 2,000 yards of concrete and stone masonry. This firm recently completed the erection of a concrete bridge for the same company at Niagara, Wis.

Owing to severe storms, the Interlocking Concrete Construction Company, of Chicago, is meeting with considerable difficulty in constructing the new 200-foot concrete pier at Racine, Wis. Heavy seas have caused heavy damages to the work so far completed, but it is expected that the work will be completed on schedule time.

NEW CEMENT PLANT IN MARYLAND.

The Baltimore Siegwart Company will soon build a manufacturing plant at Curtis Bay to make cement products. The building will be a corrugated iron structure, and will cost about \$6,000.

BIG PERMITS ISSUED.

D. W. McGrath, who has the contract for the Columbus Terminal Warehouse Building at Columbus, Ohio, took out a building permit last week. The cost of the building will be \$40,000.00. It will be five stories high and constructed of reinforced concrete. Work is progressing rapidly.

The Orr, Black & Price Realty Company also took out a permit for the five-story reinforced concrete building being erected for them, also at Columbus. E. K. Hibbs is the contractor. The permit is taken out on a basis of an estimated cost of \$136,000.00.

ROGERS RESIDENCE.

The V. L. Rogers residence on North Bellevue, Memphis, is one of the handsomest homes in the city, of concrete construction, this being carried



RESIDENCE IN MEMPHIS, STUCCO EXTERIOR.

out in the floors, porches and ornamental work. It is very handsome. Architects Weathers-Foley Company designed the same.

THE WEATHERS-FOLEY COMPANY.

The Weathers-Foley Company is one of the leading architectural firms in Memphis, Tenn., and has done work throughout the South. L. M. Weathers, senior member and who looks after the architectural features from a professional standpoint, is a natives of Talladega, Ala., and after leaving school much of his work was done in that state. The steel mills in northern Alabama are a part of his work. The Mississippi State Capitol is another to his credit. During his twenty years in Memphis he has designed numerous public and private buildings both in the city and in neighboring states. This year his business in court houses and schools in the states of Arkansas and Mississippi has been phenomenal. W. M. Foley is a native of Portsmouth, New Hampshire. In recent years, before coming to Memphis, he was identified with the Missouri Land & Mining Company, of Greeneville,



ENTRANCE TO MEMPHIS ZOO.

Mo., of which J. B. White, named by President Roosevelt as Forestry Commissioner, was president for about twenty-five years. The Memphis firms have done much concrete work this year, some of which is illustrated in this issue.

OVERTON PARK ZOO.

An interior view is presented of the Zoo, at Overton Park, Memphis. The picture shows the tiger house, everything in concrete except the iron bars. This was designed by Architects Weathers-Foley Company, of Memphis.

Another view represents the entrance to the Memphis Zoo, in Overton Park. All in concrete except ornamental brick to either side. Job designed by Architects Weathers-Foley Company.

MODEL MILL COMPANY.

The view of the Model Mill Company's plant at Johnson City, Tenn., illustrates a very fine piece of concrete work that was done by the McDonald



INTERIOR OF MEMPHIS ZOO.

Engineering Company, of Chicago. Many of the personal ideas of J. W. Ring, president of flour milling companies at Johnson City, Tenn., and Bristol, Va., were embodied.

THE KALLAHER BUILDING.

The Kallaher Building, at Memphis, was designed by Architects Weathers-Foley Company. It is a steel and concrete loft building for light manufacturing and storage purposes. The Southern Ferro Construction Company, of Atlanta, had the contract.

LOUISVILLE CONCRETE ENGINEERING.

Louisville, Ky., Oct. 18.—L. P. Hazen & Co., who had the contract for the new Tyler Hotel, have surrendered it, and the McCormick-Combs-Brainerd Co., of St. Louis, has been given the contract for the concrete work on the building. The other contracts will be relet, the Hazen company having been the general contractors.

The American Engineering & Construction Company, of Chicago, has been awarded the contract for the construction of a concrete intake tower for the Louisville Water Company. Its bid was \$69,800.00. The tower will be on a pile foundation and will be



KALLAHER BUILDING, MEMPHIS, TENN.

of reinforced concrete with a brick superstructure. It is to be 25 feet wide, 50 feet long and 60 feet high from low water line to roof. It will be connected with the pumping stations by four lines of 48-inch cast iron pipe.

Trouble between the contractors on the sewer system here and the Commissioners of Sewerage continues to develop, the Ferro-Concrete Construction Company having sued the commission for a little less than \$30,000.00, which it claims that the commission is withholding for work it has done. The Blackstaff Engineering Company, of Philadelphia, which had a contract on the northeastern sanitary sewer, amounting to \$137,525.00 has surrendered the contract to its bondsmen, the Massachusetts Bonding and Insurance Company. It had completed about 60 per cent of the work. It was announced that it gave up the job because it will require all of its capital in a government job it has taken hold of.

The first big division of the sewer system, the southern outfall, which has been described in detail in ROCK PRODUCTS heretofore, has been completed. It is nearly eight miles long, and cost about \$1,400,000.00. City officials and the public inspected it upon its completion, and it was pronounced one of the finest jobs of the kind ever completed. At the junction chamber of the sewer it is 15 feet high and 30 feet underground. At this point, to give an idea of its size, 196.3 pounds of steel per lineal foot and 2.97 cubic yards of concrete per lineal foot were used. The capacity of the sewer at that point is 1,063 cubic feet a second.

The Foster-Creighton-Gould Company, of Nashville, has begun work on the concrete piers for the Kentucky and Indiana Bridge, which is to take the place of an old one. The piers are seven in number, and the Gould system of steel piling is being used. The old bridge is being found of advantage in connection with



PLANT OF MODEL MILL COMPANY, JOHNSON CITY, TENN.

the work, material being conveyed to a point opposite where it is to be used on the wagon-way of the bridge, and then carried to the work proper by means of derricks and chutes.

An interesting test of the Turner mushroom system of concrete construction was made recently on the Sneed Building now being completed in this city. Sacks containing 177,000 pounds of cement were placed on a section of floor 20x22 feet and allowed to remain for eighteen hours. At the end of that time the deflection amounted to only 17-32 of an inch, and by the time the last sack had been removed the deflection had been decreased to 5-32 of an inch. The weight carried equaled the maximum live load to which the floor will be subjected, and this gave an excellent idea of the great strength and elasticity of the floor. The Turner system is to be used in other Louisville work, this being the first example of it in this city.

Reinforced concrete construction is evidently going on in volume all over the country, because contractors handling jobs of that description around here say that they are having difficulty getting reinforcing material. The mills which make the bars apparently have as much as they can do, if not more.

WEST COAST CONCRETE NEWS.

San Francisco, Cal., Oct. 15.—The equipment and patents of the National Concrete Tie Company, which started business at Stockton, Cal., about a month ago for the manufacture of concrete railroad ties, have been purchased by a New York syndicate. George Gates, inventor of the tie, will be superintendent of the Stockton factory, and it is announced that a number of other factories are to be started in various parts of the country.

Hansborough Bros. Company have taken a contract for constructing 2,000 feet of concrete quay wall on Oakland harbor, at a price of about \$222,000.00.

Palmer, McBride & Quayle have taken a contract to replace the wooden trestle of the Western Pacific Railroad over the Cosumnes river with concrete piling at a price of \$3.00 per cubic yard.

The Bear Creek Cement Pipe, Block & Brick Company has been incorporated at Central Point, Ore., by F. Weston, W. Collis, and W. Norcross, for the manufacture of concrete blocks and sewer pipe.

Charles W. Corbaley, of Los Angeles, has taken a contract amounting to \$175,000.00 for concrete piling for a large pleasure pier on the beach near that place.

The Monolith Construction Company has been incorporated at Los Angeles, with a capital stock of \$50,000.00, by E. G. Brockman, Charles Kern and E. J. Kern.

H. R. Ramsey and L. W. Harris have formed a partnership at Imperial, Cal., under the name of the Imperial Valley Construction Company, to engage in all kinds of concrete construction work. The outlook in that district is extremely good, as a strong demand is arising for concrete in connection with irrigation and drainage systems, and other building materials are scarce in that part of the country.

The Medford Concrete Construction Company has been incorporated at Medford, Ore., with a capital stock of \$25,000.00, George B. Carpenter being president. The company will manufacture sewer and drain pipe on a large scale.

The Pacific Construction Company has taken a \$35,963.00 contract for building a concrete bridge over Kings river near Reedley, Cal.

After considerable deliberation, the authorities at Eureka, Cal., have decided on concrete in preference to steel for a bridge over the Eel river. The bridge will be in seven spans and 24 feet wide. The contract was awarded to the Pacific Construction Company at \$247,967.00. The material will be placed at the site during the winter, and construction will be started next May.

CONTRACT LET FOR SHOPS.

Rockford, Ill., Oct. 21.—The contract for the erection of the new car repair shops of the Rockford & Interurban Railway Company has been let to the Witherspoon-Englar Company, concrete contractors, of Chicago.

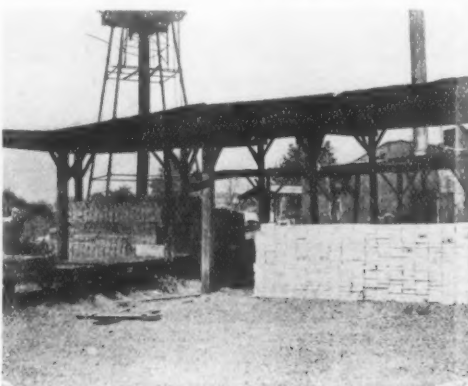
ANOTHER CONCRETE RAILROAD TIE.

Cairo, Ill., Oct. 21.—J. R. Sneed, proprietor of the Pulaski Concrete Works, has invented a concrete railroad tie, the feature of which will be that the rail is placed upon a compressed paper cushion which is sunk into a depression in the tie. The Illinois Central Railroad, it is understood, will give the new device a test.

UNIT BRICK & TILE COMPANY.

Louisville, Ky., Oct. 17.—Builders in this section are much interested in the concrete brick now being manufactured by the Unit Brick & Tile Company, which recently began operations in South Louisville. The feature of the company's product, other than its form, is that it is made by a process of wet mixing, instead of being tamped down dry. The result, it is claimed, is to make the brick much more homogeneous and altogether waterproof, and its promoters expect it to prove more popular than the ordinary concrete block.

Ohio river sand, which contains enough gravel to form the aggregate, is mixed with the Portland cement in the proportions of one to two and a half. Formerly the ratio was one to three, but it was found desirable to make a richer mix. The



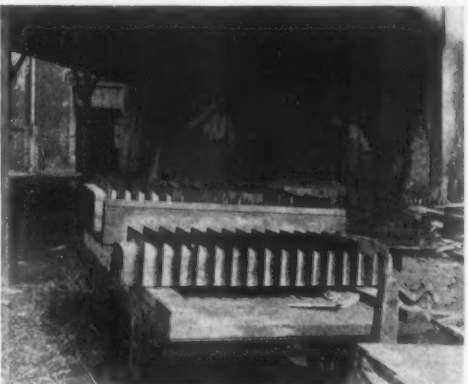
UNIT CEMENT BRICK IN STORAGE.

high percentage of cement makes an attractive cream-colored brick.

The concrete is put together in a mixer and is then conveyed to sets of moulds, which are placed on small tramcars close to the mixer. The moulds are of metal, divided into compartments by movable strips. After being placed in the moulds, the concrete, still on the cars, is run into steam dry kilns, of which the company now has eight. Each kiln can hold fifteen cars at a time. The cars remain in the steam-filled atmosphere of the kilns for twenty-four hours, after which the concrete has set and the brick is ready for its ultimate use.

The brick is shaped in the form of the letter "U," and is seven inches wide by two thick. The lengths of the brick vary from nine to twelve and sixteen inches, depending upon the width of the wall to be made. In case a thicker wall is required, combinations of the brick may be secured to produce the proper proportions.

A feature of interest to the contractor is that a smooth surface is presented on all sides, so that the



METHOD OF MOLDING UNIT BRICK.

interior of the wall offers a fine ground for spreading plaster, less of which is required than when ordinary bricks are used.

The laying of the unit brick is accomplished in a rather unusual manner, since there is an open space between the two sides. They are laid end to end, the face of one brick closing the opening of that preceding, and so on. This provides a hollow wall much after the fashion of that constructed of concrete block, and in ordinary cases is allowed to remain so, as the circulation of the air prevents dampness.

In case it is found desirable, however, the spaces may be filled with plaster or reinforcing inserted

where special strength is required. Reinforcing is also used at the joint where a hollow is left by reversing the courses of the bricks as they are laid.

One of the principal advantages of the unit brick is declared to be its imperviousness to water. A test was recently conducted at the State Bureau of Testing Materials, at the State University in Lexington, and it was found that the brick absorbed only 3.2 per cent of moisture after twenty-four hours of immersion. It can carry a load of 4,000 pounds to the square foot.

The present output of the company's plant is 20,000 brick a day, but it is intended to increase this, as circumstances permit. Double capacity is contemplated, and room will also be required for the manufacture of a roofing tile, to be composed of cement, sand and iron oxide. At present the plant is consuming four cars of cement and six cars of sand a week.

Some of the buildings into which the unit brick has gone include the State Bank of Worthville, the loose leaf tobacco warehouse at Carrollton, and the garage of the Broadway Auto Company, Louisville, in addition to scores of smaller orders. The loose leaf warehouse required 80,000 brick, and is 200 feet long by 118 feet wide. The company will also furnish the brick used in the new plant of the Southern Veneer Manufacturing Company in this city.

The company controls the manufacture of the brick, which is patented, for Kentucky only, but believes that the demand for it in other states will require the erection of similar plants there. Officers of the company are Dennis Long, president; D. P. Vanarsdall, secretary; and S. D. Adkisson, treasurer.

EXPANSION IN CANADA.

The Concrete Structural Tile Company, of Montreal, Que., which began the manufacture of tile under the famous Pauly patent, early in the spring of this year, have replaced their working shed with one double the size and have added additional machinery because they have had such a demand for concrete tile that they have felt justified in making the expansion.

Mr. Desjardins, of this company, is a very enthusiastic concrete man and stated that the architects and engineers of the Montreal district have received this tile with prompt endorsement and that they have ready sale for all that they can make.

LOUISVILLE CONCRETE NEWS.

Louisville, Ky., Oct. 17.—Concrete workers in Louisville have been kept busy during the past month, although no new jobs of importance have been developed. There is a good, steady flow of medium-sized work, foundations, sidewalks and porches forming the bulk of it. Prospects are that everybody will be kept busy until close to Christmas.

The concrete block is developing pretty well in Louisville. Manufacturers who have exploited their product intelligently say that whenever an effort is made to show the public in general what a good proposition the block is, inquiries always flow in to demonstrate real interest on the part of the people who are building.

One man, who had an exhibit at the state fair in this city last month, said that he is getting inquiries constantly as the result of his display, and that he has been encouraged to add a new line of porch columns and open-work blocks on the strength of the interest displayed.

"Blocks are making their way rapidly in Louisville," said another block man. "The solid concrete foundation is a good proposition, of course, but when forms have to be used, or in other words, when the foundation comes above the grade line, the block is considerably cheaper. Real estate men tell us, also, that it is a good talking point with them in disposing of a building, and that the good appearance of the block foundation adds considerable to the salability of a residence. The block man has the call on most of the new residences which are going up in Louisville today."

The Central Concrete Construction Company is doing a good volume of business, most of it small work. Foundations are being built right along, and blocks are selling well for this purpose. The company is figuring on adding some new equipment and increasing the capacity of the plant.

The National Roofing & Supply Company is doing a good deal of plain concrete work. It has the contract for the floor of the Mengel Box Company's new warehouse, and is also laying the foundations for the altar of the St. George's church, a handsome new structure which was recently completed.

(Continued on Page 46.)



The National Lime Manufacturers' Association

Meets Semi-Annually.

William E. Carson, Riverton, Va. President
A. Newton, Chicago. First Vice-President
F. M. Palmer, Jr., New York. Second Vice-President
F. P. Hunkins, St. Louis. Third Vice-President
C. W. S. Cobb, St. Louis. Treasurer

Official Organ, ROCK PRODUCTS.

GREAT LIME PLANT AT MINCKE, MO.

The illustration on this page is a panoramic view of the lime plant and hydrating mill of the Glencoe Lime & Cement Company, which is located at Mincke, Mo. The great ledge is shown at the extreme right of the picture, with the tramway which leads down to the charging level of the kilns. The plant is one of the best in the state of Missouri, burning the famous high calcium lime which the Glencoe Company has produced successfully for so many years.

At the right of the picture is the hydrating mill recently constructed by the Kritzer Company, of Chicago, which is turning out the same high quality of hydrating lime that has won a very favorable standing for itself in the country.

Col. C. W. S. Cobb, president of the Glencoe Lime & Cement Company, after a careful and comparative investigation, is prepared to say that he considers that he has made no mistake in the equipment of the hydrating mill or of the balance of the plant, for the building public has received the goods that are produced at this plant with the greatest appreciation. It reflects great credit upon its owners as well as upon the Kritzer Company for the consummation of its mechanic and economic perfection.

ERECTING MILL BUILDINGS.

The Kelly Island Lime & Transport Company are soon to erect two large mill buildings, one at Marblehead and the other at White Rock, Ohio. The plans were prepared by the Courtney & Emerson Company. The buildings will be of steel construction, one being 80 feet by 150 feet and the other 75 feet by 364 feet in size. The owners will begin operations at once for the construction of the buildings.

PURCHASES HYDRATING MACHINERY.

The International Lime Company, Seattle, Wash., have recently purchased and are now receiving a complete outfit of hydrating machinery, with the intention of manufacturing hydrated lime for their extensive trade, covering the entire Puget Sound district. This complete outfit was bought from the Kritzer Company, of Chicago.

ST. LOUIS LIME NEWS.

St. Louis, Oct. 19.—“There is,” said Secretary Healey, of the Glencoe Lime & Cement Company, “a seasonable demand for lime, and everything is moving along in good shape. The new hydrating plant being completed, the company is now in a position to furnish contractors with lime produced by the latest and most approved process, thus putting St. Louis in a position to be able to claim that the city is keeping fully abreast of all modern ideas in the improvement of building material, and having removed every objection that can possibly be raised against lime (that of slacking and ‘popping’), there is no reason why this time-honored wall covering material should not be able to hold its own and secure its share of the demand in this line.”

The Ste. Genevieve Lime Company's product, like “good wine, needs no bush.” Its well established reputation insures it a good demand for its white lime whenever there is anything doing in the building line. As a matter of fact, there is always something doing, except in extreme cold weather, in all progressive cities. “In case of our company, it enjoys a shipping trade that is bound to bring in orders, from some quarter or other, every day in the week, consequently we have always been able to keep busy, the only difference being in the volume of the demand, which is, of course, subject to all the conditions affecting building operations in general.”

SAN FRANCISCO LIME NEWS.

San Francisco, Cal., Oct. 16.—W. S. McLean, of the Holmes Lime Company, says, “Our trade in ‘Diamond’ finishing lime for plastering is greater with each succeeding month, and it is now difficult for us to obtain enough to supply orders. Our brick lime is also moving steadily and giving entire satisfaction. The market on hydrated lime is becoming quite active, as many fruit growers through the interior of the state are beginning to spray, and use large quantities of hydrated lime, both ‘Vigorite’ and ‘Diamond’ brands, for this purpose. We are also making large shipments of the ‘Vigorite’ brand to Oregon and Washington, where it is being used with reinforced concrete for the purpose of making it waterproof. We have a contract with the John Horstman Chemical Company to furnish their full supply of lime rock for one year. They are large users of this material, and after a test have decided to use that of the Holmes Lime Company. Our lime being a quality lime, we have led the market for high prices, and today are getting more per barrel, not only in the local, but also in the interior and export trade, than others in the same line.” The offices of the Holmes Lime Company, which have been located in the Mutual Bank building for about three years past, have been moved to room 273 Monadnock building.

BED OF MARL LIME.

F. N. Shen, who lives at Lower Pine Valley, N. Y., makes the claim that he has discovered on property which he owns a bed of marl lime. The statement is also made that there is but little of this lime anywhere else in the world, some existing in the East Indies and also in Egypt. The lime is white and when mixed with sand makes a good mortar for building purposes.

AS A FERTILIZER

Lime is now Being Generally Recognized as one of the Most Economical and Best.

Lime as a fertilizer is becoming more generally recognized every day. There are many farmers who have been aware of the value of lime for sweetening and rejuvenating sour and jaded soils for years. An added impetus is given to the use of lime by the reports of the U. S. Government experiment stations and the various states as well. Professor H. A. Morgan, of the Tennessee Agricultural Experiment Station, referring to the need of lime in the southern states in particular, says:

“Most of the so-called limestone soils seldom contain one-half pound of lime in 100 pounds of soil. One-fifth of a pound per hundred would be a fair average. Much more should be present. The trouble is that this important element has leached away by heavy rains as well as by constant cropping, so that an application of lime is badly needed. Numerous field experiments on Tennessee soils have shown that lime is a necessity to get satisfactory crops of clovers and grasses and that yields of both wheat and corn may be increased by its use. Many soils are sour. Lime sweetens sour soils so that crops such as alfalfas and clovers can be raised that are impossible otherwise.

“Lime is recommended for most of the eastern and southern states. In fact the most progressive farmers are either applying it now or are preparing to do so. The German farmers of Chester and Lancaster counties, Pennsylvania, where are the best and most valuable farm lands and the best farming in America, have made this a practice for generations.

“What kind of lime shall be used? The answer to this question is, whatever is cheapest. Ease of application should also be considered. Ground limestone of about the texture of coarse corn meal, at \$1.25 per ton, is undoubtedly preferable to the burnt lime at the usual price. A fair amount is two tons per acre. An application lasts several years, and probably once in six years is often enough to use the lime.”

Professor Morgan summarizes the reasons for the use of lime as follows: 1. It cures soil acidity and improves the mechanical and physical condition of the soil. 2. It increases crop production. 3. It increases activity of the soil and the value of commercial plant food. 4. It encourages the growth of legumes and supplies nitrogen out of the air. 5. It makes possible the growing of alfalfas and clovers. 6. It permits more economical rotations. 7. It is especially beneficial to meadow and pasture grasses. 8. It makes animal husbandry possible.

It may interest farmers to hear why lime is so useful when judiciously applied. Another writer is quoted to this effect:

“It is nearly exactly true that soil fertility is to be measured by the abundance or lack of carbonate of lime. In a sense carbonate of lime is a plant food, yet its action on the soil is nearly independent of that fact. It is an indirect enricher of soils. The action of carbonate of lime is in three directions. First, its presence in the soil helps to form the soft brown humus or vegetable matter so necessary to the highest fertility. Without abundant carbonate of lime no humus forms. With



LIME PLANT AND HYDRATING MILL OF GLENCOE LIME & CEMENT CO. AT MINCKE, MO.

much carbonate of lime soils become fully charged with humus. The next fact is that carbonate of lime stops the waste of nitrogen from the soil. Decaying vegetable matter forms a soluble stuff called nitric acid. Nitric acid is the priceless spirit of plant life, the hardest thing to get into the soils, the hardest to preserve. Nitric acid is soluble and leaches easily away in the soil water. Now, when nitric acid touches carbonate of lime the two unite; the new compound is called calcium nitrate; that remains fixed in the soil, and does not leach away. So carbonate of lime fixes both humus and nitrogen. But where is a soil to get its nitrogen?

"Nitrogen is not found in the rocks nor in soils made from decay of rock. It comes from the air. There is about \$7,000,000.00 worth of the stuff over every acre of land. But plants cannot get it; they cannot absorb nitrogen through their leaves as they do carbon. Carbonate of lime has in it no nitrogen, yet it gives nitrogen to the soil. Bacteria do the trick. Now, these convenient bacteria cannot live in sour soil. They revel in soils filled with carbonate of lime. All soils deficient in carbonate of lime are sour soils. Hence all soils deficient in carbonate of lime are poor soils; they grow rapidly barren when cropped."

Considering the benefits it confers, lime is one of the cheapest and most accessible of soil enrichers.

The Standard Lime & Stone Company, of Martinsburg, W. Va., will install electric hoists and pumps to replace steam power at the West Quarries.

The Eden Lime Company, of Eden, Wis., is preparing to commence contempt proceedings against the Chicago & North-Western Railway Company for failure to build a sidetrack to its quarries and kilns after an order had been issued to them to do so by the state rate commission. The building of this track is strongly opposed by the Union Lime Company and Nast Brothers Company, of Marblehead, Wis. They appealed from the ruling of the commission, but the Circuit court upheld the decision. The case is now pending before the Supreme court of the state on another appeal. Not wishing to wait until winter, when a place can be obtained on the court calendar, and during which time the company would be without shipping facilities, the Eden Lime Company is trying to force the railroad company to build the track.

LOUISVILLE CONCRETE NEWS.

(Continued from Page 44.)

The Culley Cement Block Company reported business excellent, Robert Culley, the head of the concern, saying that they are having a hard time getting out their orders. Porches of concrete blocks are coming strong, he said, and nearly every residence that is being built here needs a few blocks to set it off.

Work has been begun on the Government dam at Henderson, Ky. It will be made largely of concrete, and will be part of the 9-foot stage system on the Ohio river.

The Louisville Public Warehouse Company is to build an addition to the Union Warehouse, which it controls. The addition will be of concrete and will be two stories high. A. Bentley & Sons, of Toledo, have been awarded the contract. D. X. Murphy & Sons are the architects.

The Capitol Commission of the state is planning an immense amount of concrete work about the state capitol at Frankfort, consisting of walks, balustrades and similar construction. Some of it will be done at once.

The commissioners of Bath county are planning the erection of a concrete bridge across Slate creek at Owingsville. Concrete bridges are getting to be "the thing" all over Kentucky, and where one of the old wooden structures is put out of commission a concrete bridge is almost certain to take its place.

The buildings of the Haggin farm, Elmendorf, near Lexington, which have been erected for dairying purposes, use concrete wherever possible. The floor is entirely of that material, and the feed and drop troughs are also made of concrete. After the initial forms were made, the cost of constructing the others was very small. The milk-receiving room, can-washing room and toilets are finished in concrete, both the floors and part of the walls being so treated.

CLEVELAND CONCRETE NEWS.

Cleveland, O., Oct. 20.—The past month has been a notable one in concrete engineering in Cleveland, for not only have a number of new projects been started but the largest concrete span in the world has been formally dedicated and put into actual service. The Rocky river bridge, with a total length of nearly 800 feet and a central span of 280 feet, was opened on October 14, during the centennial celebration of the county which was in progress

during the entire week. It was built by Schillinger Bros., of Toledo, at a cost of \$205,000, in about twenty months' time. It is of solid concrete throughout, very little steel reinforcement being used outside of the street car track girders and rails. Appropriate exercises were held in connection with the dedicatory exercises.

On the same evening F. M. Felgate, county bridge engineer, who designed the structure, gave an address on the engineering problems which were faced, before members of the Cleveland Engineering Society. The organization is holding a series of meetings at which topics of public interest are discussed. In a few days the club is to move to new and much larger quarters on the fourth floor of the Chamber of Commerce building. Many concrete structural engineers are members of the organization.

One of the largest reinforced concrete projects to be announced is a new \$500,000.00 exposition hall and auditorium. During November a committee of 250 prominent Cleveland citizens, appointed by the Chamber of Commerce, will conduct a campaign to raise nearly \$750,000.00 with which to finance the project. Already a number of large subscriptions have been secured. It is planned to have a combination auditorium seating 2,500, and an exposition hall which will seat an additional 10,000 people when necessary.

Detailed plans are being completed by Architect J. Milton Dyer, of Cleveland, for the new tuberculosis sanitarium at the city farms at Warrensville,



VIEW SHOWING SHAFT HOUSE AT TOP OF MINE.

at a cost of \$250,000.00. The buildings, which will be of reinforced concrete and stucco, will be in a group, the center of which will be a large administration and hospital building with a service quadrangle in the rear and a large number of small open cottages scattered about. Initial plans will provide accommodations for 300 patients. This number can be increased by merely adding more cottages, as the service quarters, dining rooms, etc., will be able to accommodate a great many more when necessary.

A new \$2,000,000 hotel project is being promoted by four Cleveland trust companies. The building, which will be of steel, reinforced concrete and terra cotta, will be at Euclid avenue and East 13th street. It is to be modeled somewhat after the style of the Belmont Hotel in New York.

Eight new reinforced concrete buildings are being erected for the National Carbon Company, with headquarters in Cleveland, by the Hunkin Conkey Construction Company, of Cleveland, from plans made by the Ostorn Engineering Company, also of this city. One building will be a five-story structure 108'x100' in size. Several others will be nearly as large.

An interesting piece of concrete engineering is to be seen in a reinforced concrete building just completed for the Cleveland Union Stock Yards Company, where there is a large dome of reinforced concrete over the central portion of the building. This dome is at its base 41'x52' in size and entirely of concrete and glass. Besides the roof and the dome the floors, beams and columns are all of re-

inforced concrete. It was designed by Architect M. M. Glichman.

G. W. Hopkins has been appointed receiver for the Carey Construction Company, concrete engineers and contractors, of this city. The receivership was established merely to tide over a temporary financial embarrassment.

The Erie railroad is preparing to spend \$75,000.00 for new concrete docks along the Cuyahoga river in the heart of Cleveland. The dock itself will be about 2,000 feet long and will contain several novelties in reinforced concrete construction.

Samuel W. Emerson, up to January 1 concrete structural expert in the city building inspector's office, has been engaged by the W. B. McAllister Company to take charge of its structural concrete department, which is rapidly expanding.

CONCRETE SHAFT HOUSE.

A new use for concrete has been discovered by E. F. Bradt, a Detroit mining engineer. With the use of concrete he has been able to overcome what at first were considered insurmountable difficulties and has made the mining of rock salt in the district west of Detroit a possibility. While the engineers were sinking the shaft to the salt beds, sulphurous streams broke through the walls and made further progress impossible. After repeated failures Mr. Bradt devised a means for the mixing of concrete with the limestone walls in the shaft. Holes were drilled into the earth and into these was run a solution of concrete. After little trouble the entire mass solidified and the work became practicable. Concrete also entered into the construction of the shaft house. The illustration shows the shaft house as it now looks.

SOUTHERN RAILWAY REPORT.

Perhaps the most significant part of the annual report of President W. W. Finley, of the Southern Railway, is the survey of the industrial progress made during the year on the lines of the railway. Three hundred and fifty-five new plants were completed in the twelvemonth ended June 30, 1910. There were 28 new brick works, 21 new cottonseed mills, and 3 new fertilizer works. Twenty-one flour and feed mills were completed, 7 furniture factories, and 21 iron works. The largest class of new industries were lumber mills, of which 69 were completed. Thirty stone quarries and coal or other mines were opened, and 36 textile mills were completed. There are 16 new woodworking plants and 103 new plants that are described as miscellaneous. In addition to these there were under construction at the close of the fiscal year 72 new industrial plants in construction, and additions were making to 163 existing plants.

The Corinthian Artificial Stone Company, of Worcester, Mass., has been incorporated under a Massachusetts charter, with a capitalization of \$50,000.00, the stock having a par value of \$25.00. James A. Legrand, president; William I. Whiting, as clerk and treasurer; Clarence A. Hewett is also a member of the board.

BOTH THE CHEAPEST AND BEST.

Substantial foundations made of concrete have long been considered the best obtainable, and for years no other kind of foundation could be recommended, but often the cost of placing wooden forms has added materially to the cost. No such objection is ever allowed to stand long in the concrete industry. Our illustration shows a very substantial and very fine appearing foundation which is solid concrete and was constructed without the use of any wooden forms whatever. It was built by Derby & Brown, contractors, of Lemont, Ill., for the residence of J. Kruger in Cook county. In its construction they used concrete foundation tiles manufactured by the Chicago Structural Tile Company, filling the vertical hollow spaces by pouring in concrete. The owner is proud of the fine job he has, and the contractors state that it is the cheapest as well as the best foundation they ever put in.



FOUNDATION OF J. KRUGER'S RESIDENCE, BUILT OF CONCRETE WITHOUT FORMS.

**NEW FIRE CLAY PLANT AT SALT LAKE.**

More than a million dollars is being expended in the construction work on the new clay product plant which is being erected at Murray Station, Salt Lake, Utah, by the Western Fire Clay Co. The work is being pushed rapidly toward completion, there being 45 men now engaged on the job. Spurs to the plant from the main line of the Oregon Short Line have already been completed.

SEWER PIPE PLANT TO RESUME OPERATIONS

The American Sewer Pipe Company have made arrangements to place their plant at Lisbon, Ohio, in active operation. It has been idle for several months this season. This plant is now under the management of F. C. Carnahan, Toronto, Ontario. All of the machinery has been thoroughly overhauled and several of the kilns have been rebuilt.

NEW BRICK AND TILE COMPANY.

Birmingham, Ala., Oct. 20.—The Composition Brick and Tile Company, capitalized at \$20,000 recently, filed papers of incorporation in the Jefferson County probate court. The incorporators are M. A. Hines, Alexander Hall, R. Rothholz, J. M. O'Rear and L. J. Haley, Jr. They propose to manufacture and sell a weatherproof composition brick for the manufacture of which they received patents several months ago.

WILL ADD MACHINERY.

The Wheeling Tile Company, Wheeling, W. Va., has been incorporated to manufacture tile, with a capital stock of \$100,000, by J. G. Hearne, C. R. Hubard, Samuel O. Laughlin, D. Garth and George W. Lutz, of Wheeling.

The Lexington Clay Products Company, Alliance, O., has been incorporated with a capital stock of \$50,000. J. J. Haskins is president; Ira Anker, vice-president; Albert Swallen, secretary-treasurer.

The Dennison Sewer Pipe Company, recently organized for \$75,000.00, is about to erect a large sewer pipe and fire clay products plant at Dennison, Ohio. It will require 200 horse power to operate the plant and twelve down-draft kilns will be erected. Theodore Lanning is president of the company and J. J. Mazurie manager.

The National Stone Brick Company has been incorporated in Kansas City, Mo. Capital, \$75,000. The incorporators were John D. King, James B. Turner and Dickson C. Collier.

The Trenton Fire Brick Manufacturing Company, Trenton, N. J., has been incorporated with a capital stock of \$100,000, by Joseph B. Hottel, Elwood W. Moore, Jr., and Arthur W. Belting.

The Atlantic Tile Manufacturing Company, Matawan, N. J., has been incorporated with a capital stock of \$50,000, by Charles E. Barker, Herbert Gittins, Edward Barker, all of Matawan, N. J.

BRICK BUSINESS GOOD.

Cleveland, O., Oct. 15.—Business with the brick manufacturers and dealers in this territory is reported as having been exceptionally good this summer. About 132 miles of brick pavement is being laid under the auspices of the county in rural districts about Cleveland. This, in addition to requiring large volumes of shale paving brick, made in the vicinity of Cleveland, calls for the use of hundreds of barrels of cement.

INCREASES CAPITAL STOCK.

Springfield, Ill., Oct. 17.—The White Hall Sewer Pipe and Stoneware Company has increased its capital stock from \$250,000 to \$300,000. The company, which is located at White Hall, will now cover a larger field.

The federal grand jury sitting in Chicago last week, returned indictments charging violations of the Sherman anti-trust act against officials and corporations in the paving brick trust which is supposed to exist.



The nineteenth annual Revised Edition of Hendrick's Commercial Register of the United States for buyers and sellers has just been issued. The book contains 1,344 pages and over 350,000 names and addresses. There are 35,481 classifications, each representing some machine, tool or material required in engineering, mechanical, railroad and kindred industries. The book is so classified as to be of equal advantage to either the purchase or sales departments. The book is revised, improved and issued annually, and will be sold for ten dollars to anyone addressing 74 Lafayette street, New York.

A booklet pointing out the economy of using Allis-Chalmers clutch pulleys and clutch couplings in transmission work has just been issued. The Allis-Chalmers Co., Milwaukee, Wis., will be glad to mail a copy of "Clutch Economy" to anyone upon request.

The Marsh Co., 970 Old Colony building, Chicago, Ill., manufacturers of the "Miracle" concrete products equipment, has issued a unique piece of advertising literature, in the shape of a folder, showing the entrance to the "Hall of Opportunity" on one of the double doors of which appears, "Notice—No Admittance Except on Business" and on the other, "The Doors of Opportunity Open to Success," while on the inside are shown illustrations of the well-known Miracle Double Air Space Block Machine, Sewer Tile Molds, the new Rapid Block Machine and Collapsible Culvert Forms. This company also manufacture concrete mixers, cement workers' tools, burial vault, ornamental, monument and gravestone molds. An invitation is extended to users or prospective users of concrete machinery to write for special circular of any machine, mold or other appliance in which they are interested.

IMPORTANCE OF GOOD MATERIAL.

It is a pretty well accepted theory today that the building contractor's main profits lie in his savings on the labor item. The employment of labor saving machinery at every practical point has been the foundation of America's splendid achievements in the building arts. Now we are commencing to turn our attention to the labor economy in materials as well as in handling devices. It may be possible with good care and labor to get fair results along certain lines with mediocre materials, but when first class materials cost but a fraction more and assure perfect results with a minimum of effort, the labor saving item is practically certain to outweigh the difference in first cost. Take mortar colors as an instance. It may be possible with poorly ground, uncertain colors to get passably good results, but the time and supervision required during the mixing process run up tremendously when compared with that required when using a strong toned, finely ground color. The Ricketson Mineral Paint Works state that when their "Red Buck" colors are used stability is absolutely assured. "They never fade."

Samples of the five shades—red, brown, buff, purple, and black—will be sent upon application to the Ricketson Mineral Paint Works, Milwaukee, Wis.

SUPERIOR ENDURES.

The Superior Portland Cement Company, Union Trust Building, Cincinnati, Ohio, are sending out to the trade a small booklet entitled "A Little Journey to Our Mills at Superior."

In their foreword they state that Superior is a model Portland cement, and hence it should interest cement users to learn how it is made, of what it is made, and why it will last for ages. The aim of this booklet is to give the chief features of the process in a way as simple as the science of cement will permit. A hurried trip with them from the quarries to the market will reveal the modern method of converting limestone, shale and gypsum into a product of so much benefit to mankind.

The booklet makes interesting reading and contains much valuable information. It is free.

C. J. Brown, of Baraboo, Wis., has purchased a building, which he will equip and use for the manufacture of cement blocks.

THIS IS WHAT COUNTS.

H. J. KLEMMER LUMBER CO.
Dealers in Lumber and Coal
Yards

Belmond Kanawha Meservey Swaledale

Belmond, Iowa, Aug. 3, 1910.

This is to certify that H. J. Klemme Lumber Company has just installed a No. 2 Universal crusher, which was sold to him and put up by E. A. Velde, and to say that we are well pleased with it is putting it very mildly, and we feel that it will be a good investment, for it will save the material that heretofore has been wasted, and thereby saving will improve the quality of tile, blocks and brick and give our patrons a better quality of the manufactured product. We made a few sample brick three days ago from the crushed material and they are highly satisfactory as regards to strength and looks, and any one needing a crusher we would gladly refer them to E. A. Velde.

Signed by G. W. CRAM,
Agent for H. J. Klemme Lumber Co.

DEYERS, PRESSERS AND COOKERS.

"Dryers, Presses and Cookers" is the title of a handsome little booklet just issued by the American Process Company, of New York. The book is a catalog of the American Process Company's products, which include machines for drying, pressing and digesting. It contains twenty-seven pages and is properly illustrated.

ISSUE NEW CATALOG.

The Raymond Bros. Impact Pulverizer Co., of Chicago, have just issued their No. 10 catalog under the name, "Grinding, Pulverizing and Separating Machinery." The book is the finest type of printer's art and contains eighty pages, setting forth the different machines designed and manufactured by Raymond Bros. They are to be congratulated upon getting out such a complete and well appearing catalog.

PHOTOGRAPHED DYNAMITE EXPLOSION.

Louisville, Neb., Oct. 17.—A daring feat was recently performed here at the quarries of the National Stone Company by the superintendent, Thomas J. Sullivan, who photographed a heavy dynamite explosion at the quarry. The shot was fired under the direction of their dynamite expert, Oscar Kimblom.

In making the shot about 1,200 pounds of dynamite was used. The ledge disrupted by the shot is from 18 to 24 feet in height and the dynamite is loaded into holes drilled 12 feet back from the face of the ledge and 8 feet apart. These extend for a distance of about 250 feet along the ledge, twenty-six holes in all, containing about thirty-five or forty pounds of dynamite each.

It is estimated that about 6,000 tons of rock was thrown down by this shot, enough rock to load 150 cars, or about two good sized railroad trains. Because of the experience of Mr. Kimblom in loading these batter shots it is possible for him to so arrange his dynamite that the rock is broken up into small masses of from 300 to 500 pounds in weight. However, in a recent shot one rock was thrown out about 40 feet from the base of the ledge which weighed about 300 tons. The danger incident to taking a picture such as Mr. Sullivan secured arises from the great amount of small rock which is thrown up by the shot, a veritable downpour of small boulders following each explosion. When he took the photograph it was necessary for him to show great agility in dodging the rain of rock which followed the shooting of the battery, as he was but 100 feet from the ledge when the explosion occurred.

A very peculiar phenomenon which has accompanied all the large shots at the National quarry is the fact that there is an eruption about 200 feet from the base of the ledge in the bed of the quarry, very much resembling such an upheaval of the earth as is seen in cases of earthquakes. This has been regarded as quite a curiosity by Professor Condra, of the state university. It is due to the great downward pressure of the dynamite finding a place of escape in the soft bed of the quarry.

After the stone is thrown down into the quarry by these large battery shots, it is necessary to do further shooting, in order to break the larger fragments into sizes fit for the crusher. This is done by a process known as block-holing. Holes are drilled into these large stones and then filled with dynamite, which is exploded. The adobe is another shot used to break the large rock for the crusher. In this process two or three sticks of dynamite are laid on a rock and a plaster of mud placed over them. These are exploded by fuses, which are lighted by hand, while the large battery shots are exploded by an electric current.

SPRINGFIELD AND EASTERN ILLINOIS CONCRETE NEWS.

Springfield, Ill., Oct. 21.—The Newton Engineering Company, of Milwaukee, expects to have the new concrete dam across the Rock river near Rockford, Ill., completed about the first week in December. About sixty men are employed upon the job, which is being built behind the old structure. Cofferdams fifty feet long are built and boxed in and the work done within that space.

J. J. Wuellner & Son, of Alton, have the contract for the concrete highway bridges in that vicinity.

Harvey K. Rhodes, of Lincoln, is building sixteen blocks of concrete sidewalks in Middletown, Ill.

The Illinois Traction system's concrete subway at Harrison avenue, Decatur, will be built in the form of an "X." Where the electric lines desires to cross, the Illinois Central railroad and a highway meet at sharp angles. Trains on the trolley line will pass through an arch eighteen feet wide. Each abutment will require, exclusive of foundation, 400 cubic yards of concrete. A. Arnott, superintendent of construction for the I. T. S., is in charge of the work.

The Western States Fence and Tile Company, of Paris, Ill., is making things hum in the concrete line and will probably run full blast all winter. Among the recent orders landed is a twenty-five carload contract of drain tile from an Allerton, Ill., buyer.

The Luck Cement Post Mould Company, of Aurora, Ill., has been incorporated with a capital stock of \$40,000.00, to manufacture and deal in concrete products and to do concrete construction. The incorporators are John G. Birtness, G. H. Klense and E. W. Schoede.

Work on the concrete retaining walls for the Illinois River bridge approaches at Ottawa, for which the Illinois Cement Construction Company, of Springfield, has the contract, has been started under the superintendency of Charles G. Wineteer, of this city. The mixer used has a capacity of eighty yards of concrete a day, and three cars of gravel daily are used. Contractor Wineteer is using half a sack more of cement in his formula than is called for in the specifications.

The Commercial Concrete Company, of Chicago, has the contract to build the new 131-foot stack for the Clinton Gas & Electric Light Company at Clinton.

The Chicago & Alton company let the contract for the concrete work in its new 93'x20' coaling station at Bloomington, Ill., to the Westinghouse-Church Company.

L. E. Granke, of Chicago, has the contract for building the new dam at the Decatur municipal waterworks for \$9,730.

Raymond Siers, of Prairieville, had his mixing outfit at work supplying the material for E. H. Klosterman, who is experimenting with concrete floors in his horse and cattle yards upon his farms. This is the first work of this kind done in that part of the state.

P. H. Tiernan, of Macomb, landed a \$11,210.00 contract for paving at Bushnell, which includes considerable concrete curb and gutter work.

Lars Bradley has embarked in the cement block industry at West Bureau, Ill.

The bridge department of the Chicago & Alton Railroad has just finished a bridge near Lemont in which concrete blocks ten feet long and six feet wide and eighteen inches thick, reinforced with

iron rods, were used. On top of these the ties and gravel ballast was used. If the type proves satisfactory, all small bridges on the road will be constructed in this manner.

Adam Saal, of Pekin, has the contract to erect the Otto Hilst undertaking establishment at Manito, Ill., from high grade concrete building blocks.

J. R. Harrington, the Edinburg, Ill., manufacturer and dealer, was hit by a shortage of water and had to shut down his concrete block and tile factory for two weeks.

The Illinois Cement Construction Company, of Springfield, received the contract to erect for the city of Ottawa the concrete, walls, fill and balustrades comprising the approaches to the municipal bridge across the Illinois river. The price was \$12,000.00. The local company recently finished a huge paving job in central Ottawa and its invasion of the northern Illinois field has been well received by local officials.

The Joliet Construction Company is erecting a concrete bridge 124 feet long over Jackson Creek at Joliet.

Acting upon the suggestion of Commandant Lieutenant-Colonel Frank E. Hobbs, Congressman James McKinney, of the Fourteenth district, will ask for an appropriation of \$30,000.00 to be used in the construction of a filtration plant at the arsenal at Rock Island, Ill. New bids will be asked upon the construction of a warehouse at the arsenal, for which \$60,000.00 has been appropriated.

The Norfolk Portland Cement Company will start their plant at Berkley, Va., in a short time. The plant cost \$800,000, and is expected to turn out a million barrels of cement a year.

CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:

For one insertion.....25 cents a line
For two insertions.....45 cents a line
For three insertions.....60 cents a line

Eight words of ordinary length make one line.
Headings count as two lines.
No display except the headings can be admitted.
Remittances should accompany the order. No extra charges for copy of paper containing the advertisement.

EMPLOYEES WANTED

EXPERIENCED SALESMAN.

Wanted—Experienced salesman familiar with building, chemical and agricultural lines. Quick answer means good connection. Address 785, care Rock Products.

WALL PLASTER SALESMAN.

Wanted—A good wall plaster salesman. Exceptional opportunity. Address 786, care Rock Products.

WANTED.

If you are in need of or wish to sell anything which comes under any of these classifications, write us. If you have something not coming under these classifications we will create one for you.

SUPERINTENDENT OF LIME WORKS.

Wanted—A general superintendent for a lime plant in Missouri; daily output 500 barrels. Must be familiar with quarrying rock and burning lime, as well as with general work around plant. Advise No. 776, care Rock Products.

EMPLOYMENT WANTED

PRACTICAL LIME MAN.

Practical lime man, ten years' experience as foreman, superintendent and manager, desires position. Thoroughly familiar with hydration. Successful in handling men. Best references.

Address Y. A. T., care Rock Products.

CEMENT SALESMEN.

More than 20 years' experience, widely acquainted with the trade throughout the Mississippi valley, desires position with solid concern which can deliver the goods.

Address 787, care Rock Products.

MANAGER OR SUPERINTENDENT.

Wanted—Position as manager or superintendent of cement block factory. Eleven years' experience, five years as manager. Can handle all kinds of special and ornamental work. Able to install and operate steam curling plant. Address 784, care Rock Products.

PLANT FOR SALE

FOR SALE, RENT OR LEASE.

An up-to-date crushing plant, including 6 & 3 McCully Crushers and everything needed to make a plant complete. Machinery in use less than two years. If desired to avoid heavy investment plant can be leased on a tonnage basis. Address

ALTON BUILDERS' SUPPLY CO., Alton, Ill.

SUPERINTENDENT OF LIME WORKS.

Position wanted as Supt. of Lime works or large stone quarries, fourteen years' experience, a hustler and can furnish best of references.

Address D. O. S., care Rock Products.

COMPLETE OUTFIT.

- 2 Blake jet condensers with duplex air pumps.
- 1 Buffalo 44" steel exhaust fan.
- 1 Sturtevant 47" steel exhaust fan.
- 1 Sturtevant 53" steel exhaust fan.
- 1 600 H.P. copper tube water heater.
- 2 500 H.P. Allis cross-compound condensing engines.
- 1 1200 H.P. Allis Tandem compound condensing engine.
- 2 225 KWDC Crocker-Wheeler generators.
- 1 10 H.P. vertical center crank steam engine.
- 1 15 H.P. vertical center crank steam engine.
- 1 40 H.P. vertical center crank steam engine.
- 1 25 H.P. horizontal right hand steam engine.
- 1 40" horizontal left hand steam engine.
- 1 15" gas producer and engine complete.
- 1 48" Fay band saw with detachable resaw rolls.
- 1 One-side rim planer.
- 1 Berlin power feed edging saw.
- 1 Roof's rotary pressure blower.
- 1 14"x8"x12" Blake steam pump.
- 1 Iron pulley 6'8" dia. x 50" face.
- 1 Iron pulley 7'0" dia. x 26" face.
- 1 Iron pulley 7'0" dia. x 33" face.
- 1 Iron pulley 6'0" dia. x 9 1/4" face.
- 2 Iron pulleys 5'0" dia. x 9 1/4" face.
- 1 Iron pulley 4'0" dia. x 25 1/4" face.
- 1 Iron pulley 5'0" dia. x 14 1/2" face.
- 1 Iron pulley 6'8" dia. x 4 1/2" face.
- 3 Clutch pulleys 7'4" dia. x 19" face.
- 1 Woodface pulley 9'0" dia. x 65" face.
- 1 Wood pulley 66" dia. x 13" face.
- 1 Wood pulley 88" dia. x 26 1/4" face.
- 2 Clutch pulleys 62" dia. x 18" face.
- 1 Clutch pulley 72" dia. x 31" face.
- 1 Clutch pulley 72" dia. x 27" face.
- 1 165 drop American telephone switchboard and phones.
- 1 10"x8" air compressor, Smith-Vail.
- 1 No. 6 Parker derrick.
- 1 Stiff leg derrick, 14" mast with 64' boom.
- 1 6"x6" hand power derrick.
- 1 Material elevator—horsepower—2 cages.
- 1 8 foot steel bull wheel.
- 1 Concrete mixer, Chicago make.
- 1 Pile driver, 3,000 lb., 12' circle.
- 1 American 7 H.P. elevator engine, No. 58.
- 1 Lambert 20 H.P. D. D. C. skeleton.
- 1 American 16 H.P. D. C. S. D. engine and boiler.
- 1 Mundy 20 H.P. D. D. C. engine with slowing att.
- 1 All above equipment in Chicago stock ready for immediate shipment. Address owner for prices, etc.

F. H. PARKER, 4320 North Lincoln St., Chicago, Ill.

Completely Equipped Brick Plant.

For Sale—Capacity of 50,000 brick per day, with 31 1/2 acres of red clay and shale of very high brick making quality, and cheap to handle and work. Located at Cloverport, Ky. (1,200 inhabitants), on the Ohio river and Louisville, Henderson & St. Louis railway. Louisville 65 miles, Owensboro, Henderson and Evansville within 30 miles by rail. Has railroad switch in the yard and cheap water transportation. The equipment comprises three 100 H. P. tubular boilers, with independent stacks; automatic Atlas engine, 150 H. P. electric light outfit. Combination clay dryers, tunnels, cars, fans, with direct connected engine. One up-draught kiln of 375,000 capacity; six down draught kilns, each having a capacity of 175,000 brick; making the total kiln capacity 1,425,000 brick. Fuel supply is unsurpassed; railroad coal is only a few miles away in both Kentucky and Indiana coal fields, and the river brings Pittsburg and West Virginia coal by water, which governs the rate. Slight changes in the equipment would provide for the making drain and roofing tile from splendid raw materials. It is a bargain.

Address Columbia Trust Company, Agents.
Louisville, Ky.



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For You

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publisher? Do you use cuts of
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We make cuts and designs—all
kinds for all uses—black and
white or colors. Our samples
will interest you. Write us now.

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114-122 Federal St. — Chicago

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For Sale or Rent—Sugar Creek Lime and Cement Co. Plant.
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United States, Mexico and Canada, calling on architects, engineers and contractors, to handle our product on an extremely profitable commission basis. Address **MCCORMICK WATERPROOF PORTLAND CEMENT CO.**, St. Louis, Mo.

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Two rotary sand lime brick presses, in good condition. Will sell cheap. Manufactured by the Cleveland Brick Machinery Co., Cleveland, Ohio.
Address **THE SUGAR GROVE BRICK CO.**, 901 Harrison Bldg., Columbus, Ohio.

SECOND-HAND ROLLS FOR SALE.

Wanted—One set of second-hand rolls for stone reduction. In answering state size, price and location.
Address 783, care Rock Products.

1910

Velten Universal Crusher

Reduces the hardest Rock and Gravel Instantaneously TO ANY REQUIRED FINENESS

Simple, Practical, Durable

Light in weight, yet strong. Less parts and less friction than any other crusher.

A CRUSHER AND PULVERIZER COMBINED

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Universal Crusher Co. WORKS AND OFFICE:
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For Sale—At a bargain, three twelve-ton Byers locomotives 48-inch gauge, in good condition. Indiana delivery. **THE CASPARIS STONE CO.**, Columbus, Ohio.

IN GOOD CONDITION.

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F. H. PARKER, 4320 N. Lincoln St., Chicago, Ill.

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For Sale—Machinery and equipment (part as good as new), consisting of engines, boilers, locomotives, dump-cars, railroad iron, air compressors, drills, elevators, conveyors, shafting, etc., of one of the largest natural cement plants of the country. Lists and descriptions furnished on application. **UNION CEMENT & LIME CO.**, 413 West Main St., Louisville, Ky.

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For Sale—No. 3, overhauled, first class shape. Also narrow and standard gauge locomotives. Address **Southern Iron & Equipment Co.**, Atlanta, Ga.

Attention, Quarrymen!

For sale—No. 8 Austin Gyratory Crusher.
No. 6 and No. 3 Austin complete plant.
No. 3 Austin and 2 No. 6 Gates and No. 5 "D."
70-ton Vulcan Steam Shovel, 2-yard.
50-ton Bucyrus Steam Shovel, 1½-yard.
Loco. Crane, with 1½-yard Clam Shell.
Little Giant Traction Steam Shovel, 1-yard.
Hayward Orange Peel Buckets, 1 and 1½-yard.
Lidgerwood No. 71 Hoist and No. 424 Mundy.
Stiff Leg Derrick with 18"x18" mast and boom, 18"x18"x68 feet, complete with extra heavy American Irons rigged for 3-part line.
Concrete Mixers, Concrete Buckets, Steam Rollers, Air and Steam Drills, Air Compressors, Pumps, Boilers, Locomotives, Dump Cars, etc.

Send for our Oct. Booklet.

Willis Shaw Machinery Co.
171 La Salle St., Chicago, Ill.

Some Bargains in Quarry Equipment

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One 16x16x18 McKiernan straight line compressor, capacity 600 feet of air. Ample for 6 to 10 drills. Ready for immediate use.
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One Rand 12x12x16 straight line, capacity 250 cubic feet.

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1 No. 5 Austin, with 60' elevator and rotary screen and power plant. Will sell all or split.
1 No. 6 Austin. Used one season.
1 No. 7½ Austin plant complete.
1 No. 8 Gates plant complete and a lot of elevators, screens, friction hoists, etc.

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Two 75-ton steam shovels, built especially for handling broken stone. Used less than one year; left the shop late in 1907. Great bargains for anybody who wants loading shovels.

We have several smaller shovels for stripping and other work.

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One 15-ton Interstate, with 44-foot boom, 1-yard clam shell bucket on standard gauge truck. Absolutely first class condition. Can be seen in operation.

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Also have some others.

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We have a lot of standard Gates, Austin and other screens and elevators, friction hoists, and other hoisting appliances.

Be sure and write us for prices before you buy ANY KIND OF EQUIPMENT—SAVE YOU MONEY

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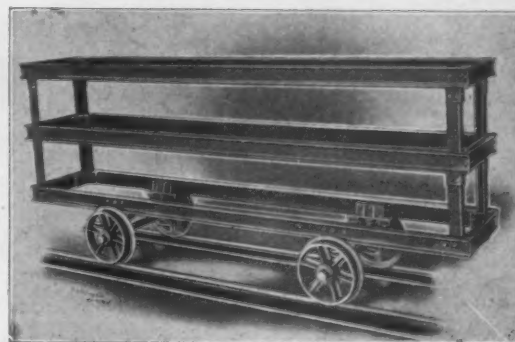
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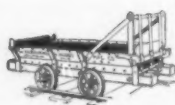
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"K & J" CARS FOR QUARRIES

Are Heavily Built for Continuous Service.

The above car carries 3 1/2 tons of stone; cubic capacity 42 ft.; gauge track 36 in. We build cars to any specifications to fit your work. Catalog 60-J.

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Fast Trains Day and Night

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MONON ROUTE

EXCELLENT SERVICE

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Changes of Copy must be in this office by the Fifteenth of the month, if proofs are desired; if no proofs are required the desired changes can be made if copy is received by noon of the Nineteenth.

New Advertisements to insure proper classification, should be in this office by the Fifteenth of the month, but they can be inserted in the last form going to press if received by the Nineteenth. The punctual publication of the paper admits no deviation from these rules. Advertisers are earnestly requested to co-operate with us.

THE FRANCIS PUBLISHING CO., 355 Dearborn Street
CHICAGO, ILLINOIS

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Urschel Bates Valve Bag Co.
West Jersey Bag Co., The

BALL MILLS.

Aising, J. R., Eng. Co.
Power & Mining Mch. Co.

BELTING.

American Fabric Belting Co.
Chicago Belting Co.
Gandy Belting Co.
Main Belting Co.
Salisbury & Co., W. H.
Sawyer Belting Co.
Stephens-Adamson Mfg. Co.

BLAST HOLE LOADERS.

Cyclone Drill Co.

BLASTING MACHINERY.

Griscom-Spencer Co.

BRICK.

Harblson-Walker Refractories Co.

BUCKETS, DUMPING AND GRAB.

Atlas Car & Mfg. Co.
Kilbourne & Jacobs Mfg. Co.
Sackett Screen & Chute Co., H. B.

BUILDERS' SUPPLIES.

Springfield Coal & Ice Co.
Wisconsin Lime & Cement Co.
Sackett Screen & Chute Co., H. B.

CEMENT BRICK MCHY.

Bartlett, C. O., & Snow Co.
Martin-Henry Brick Machine Mfg. Co.
Peerless Brick Machine Co.

CEMENT HYDRAULIC.

Carolina Portland Cement Co.
Fowler & Pay.

CEMENT MCHY.

Aising, J. R., Eng. Co.
Cummer, F. D., & Son Co.
Griscom-Spencer Co.
Kent Mill Co.
Power & Mining Mch. Co.
Ruggles-Coles Eng. Co.

CEMENT, PORTLAND.

Allentown Portland Cement Co.
American Cement Co.
Alpha Portland Cement Co.
Atlas Portland Cement Co.
Atlantic and Gulf Portland Cement Co.
Carolina Portland Cement Co.
Chicago Portland Cement Co.
De Smet, Geo. W.
Dexter Portland Cement Co.
Edison Portland Cement Co.
French, Samuel H., & Co.
Hartman, Wm. G., Cement Co.
Kansas City Portland Cement Co.
Kirkpatrick Sand & Cement Co.
Ironton Portland Cement Co.
Kosmos Portland Cement Co.
Lehigh Portland Cement Co.
Marquette Cement Mfg. Co.
Meacham & Wright Co.
Maryland Portland Cement Co.
Northwestern States Portland Cement Co.
Phoenix Portland Cement Co.
Security Cement & Lime Co.
Southwestern States Portland Cement Co.
Standard Portland Cement Co.
Superior Portland Cement Co.
Union Sand & Material Co.
Universal Portland Cement Co.
Wisconsin Lime & Cement Co.
Wolverine Portland Cement Co.

CLAY PRODUCTS.

Buckeye Fire-Clay Co.
Western Lime & Cement Co.

CLAYWORKING MCHY.

American Clay Working Mch. Co.
Bartlett, C. O., & Snow Co.
Cummer, F. D., & Son Co.

CONCRETE BLOCK MCHY.

Century Cement Mch. Co.
Centrifugal Concrete Machine Co.
Concrete Stone & Sand Co.
Marsh Co.
Perfection Block Mch. Co.
Pettyjohn, The Co.
Sioux City Cement Mch. Co.
U. S. Kellastone Co.

CONCRETE MIXERS.

Cement Tile Mch. Co.
Chalmers & Williams.
Kent Mach. Co.
Marsh Co.
Williams Contractors' Supply Co.

CONCRETE BEADS.

Carolina Portland Cement Co.

COLORINGS, BRICK AND MORTAR

Chattanooga Paint Co.
Clinton Metallic Paint Co.
Macneal, James B., & Co.
Ricketson Mineral Paint Works.
Williams, C. K., & Co.

CONCRETE REINFORCEMENTS.

American Steel & Wire Co.
Buffalo Wire Works Co.

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Bartlett, C. O., & Snow Co.
Caldwell, H. W., & Sons Co.
Erscham, J. B., & Sons Mfg. Co.
Griscom-Spencer Co.
Power & Mining Mch. Co.
Sackett Screen & Chute Co., H. B.
Stephens-Adamson Mfg. Co.

CRUSHERS.

Allis-Chalmers Co.
Allen Edgar American Manganese Steel Co.
Aising, J. R., Eng. Co.
Austin Mfg. Co.
Bacon, Earl C.
Bartlett, C. O., & Snow Co.
Butterworth & Lowe.
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Chrome Steel Works.
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Good Roads Machinery Co.
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Marsh Co.
Martin, Henry.
McDonnell Boiler & Iron Works.
Pennsylvania Crusher Co.
Power & Mining Mch. Co.
Smith, T. L., & Co.
Symons Brothers.
Sturtevant Mill Co.
Taylor Iron & Steel Co.
Universal Crusher Co.
Williams Contractors' Supply Co.
Williams Pat. Crusher & Pulverizer Co.

CUT GEARS.

Nuttall, R. D., Co.

DRAINAGE FITTINGS.

Wade Iron Sanitary Mfg. Co.

DRILLS.

American Well Works, The.
Cyclone Drill Co.
Keystone Traction Drill Co.
Howell Mining Drill Co.

DEYERS.

Aising, J. R., Eng. Co.
American Process Co.
Bartlett, C. O., & Snow Co.
Cummer, F. D., & Son Co.
Power & Mining Machinery Co.
Ruggles-Coles Eng. Co.
Worrell, S. E.

DRYER CARS.

Ernst Wiener Co.
Kilbourne & Jacobs Mfg. Co.
Power Mining & Mch. Co.
Sackett Screw & Chute Co., H. B.

DUMP CARS.

Atlas Car & Mfg. Co.
Austin Mfg. Co.
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Power & Mining Mch. Co.
Sackett Screen & Chute Co., H. B.
Stephens-Adamson Mfg. Co.
Ernst Wiener Co.

DUMP WAGONS.

Troy Wagon Works Co.

DYNALITE.

American Dynalite Company.

DYNAMITE AND POWDER.

Aetna Powder Co.
DuPont Powder Co.
Independent Powder Co.

ENGINEERS.

Bacon, Earl C.
Buckbee, J. C., Co.

Fuller Eng. Co.
Griscom-Spencer Co.
Schmatolla, Ernest.
Spackman, Henry, Eng. Co.

ENGRAVERS.

Rosenow Co.

FIBRE MCHY.

Ohio Fibre Mch. Co.
Shuart-Fuller Mfg. Co.

FIRE BRICK.

Buckeye Fire-Clay Co.
Carolina Portland Cement Co.
Harblson-Walker Refractories Co.
Louisville Fire Brick Co.
Union Mining Co.

GAS AND GASOLINE ENGINES.

Cyclone Drill Co.
Power & Mining Mch. Co.

GAS PRODUCERS.

Duffs Patents Co.
Griscom-Spencer Co.
Power & Mining Mch. Co.

GOOD ROADS.

Good Roads Construction Co.

GYPSUM.

Carolina Portland Cement Co.
King, J. B., & Co.
Plymouth Gypsum Co.
Niagara Gypsum Co.
U. S. Gypsum Co.

GYPSUM MCHY.

Butterworth & Lowe.
Cummer, F. D., & Son Co.
Erscham, J. B., & Sons Mfg. Co.
McDonnell Boiler & Iron Works.

GYPSUM SPECIALIST.

Jones, F. A., M. E.

HARDENING CYLINDERS.

Aising, J. R., Eng. Co.
American Clay Machinery Co.

HYDRATING CYLINDERS.

Aising, J. R., Eng. Co.
Kritzer, The, Co.

HYDRATING MCHY.

Kritzer Co., The.

LAND AND INDUSTRIAL AGENT.

Richards, M. V.

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Basic Products Co.
Carolina P. C. Co.
Farnam-Cheshire Lime Co.
Fowler & Pay.
Glencoe Lime & Cement Co.
Ohio & Western Lime Co., The.
Kelly Island Lime & Trans. Co.
Marblehead Lime Co.
Mitchell Lime Co.
National Lime & Stone Co.
National Mortar & Supply Co.
New Jersey Lime Co.
The Scioto Lime & Stone Co.
Western Lime & Cement Co.
Wisconsin Lime & Cement Co.

LIME, HYDRATED.

Kelley Island Lime & Transport Co.
Ohio & Western Lime Co., The.
Marblehead Lime Co.
New Jersey Lime Co.
National Lime and Stone Co.
National Mortar & Supply Co.
The Scioto Lime & Stone Co.
Western Lime & Cement Co.

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Davenport Locomotive Wks.
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PLASTER MCHY.

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King, J. B., & Co.
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American Pulverizer Co.
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Sturtevant Mill Co.
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Illinois Central R. R.
Monon Route.

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Atlas Car & Mfg. Co.
Kilbourne & Jacobs Mfg. Co.
Sackett Screen & Chute Co., H. B.
Ernst Wiener Co.

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Barrett Mfg. Co.
U. S. Kellastone Co.

SAND.

Kirkpatrick Sand & Cement Co.
Ottawa Silica Co.

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Johnson & Chapman Co.
Power & Mining Mch. Co.
Sackett Screen & Chute Co., H. B.
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STEAM SHOVELS.

The Bucyrus Co.
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STUCCO RETARDER.

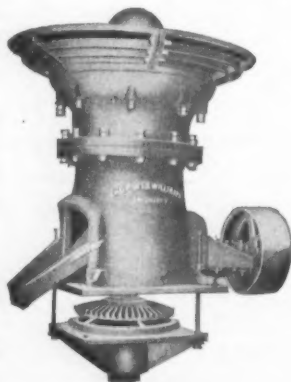
Chemical Stucco Retarder Co.
Ohio & Blinn Retarder Co.

TUBE MILLS.

Aising, J. R., Eng. Co.
Power & Mining Mch. Co.

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Maumee Chemical Co.
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The Kennedy Gyratory Crusher

THE ONLY CRUSHER

With a Ball and Socket Self-Aligning Eccentric

This crusher is proving its superiority over all other makes of crushers in all parts of the country. We can give interesting data from operators, regarding the greater capacity, small cost for repairs, perfect alignment, great reduction in power to operate and perfect coolness of the eccentric.

We also Build Cement Making Machinery

Kilns, Dryers, Coolers, Crushing Rolls, Ball Mills, Tube Mills, Elevators, Conveyors and Revolving Screens.

CHALMERS & WILLIAMS, Inc., : CHICAGO HEIGHTS, ILL.



AUSTIN GYRATORY CRUSHER

The World's leading rock and ore breaker.

The only self lubricating Crusher.

The only Crusher having double countershaft bearing.

Simple construction, correct design.

Thousands in use.

Plans and specifications furnished for any sized plant.

Send for Catalogue No. 17.

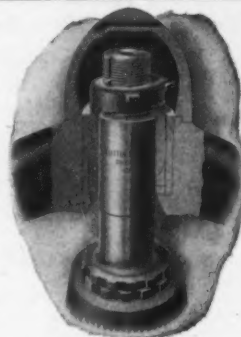
All experienced users recognize that the efficiency and durability of the suspension bearing as applied to Gyratory Crushers, depends upon locating the bearing at the point of least gyration or movement of the main shaft.

A perfect suspension can be made only by locating the bearing at the point where there is no movement of the shaft. That being a mechanical impossibility it follows that superiority is obtained in fixing the bearing at the point of least gyration of the shaft.

As the accompanying cut will show, the movement of the shaft at the point of suspension in the Austin Crusher is reduced to the minimum and practically eliminated. Consequently the highest possible degree of efficiency and durability is obtained.

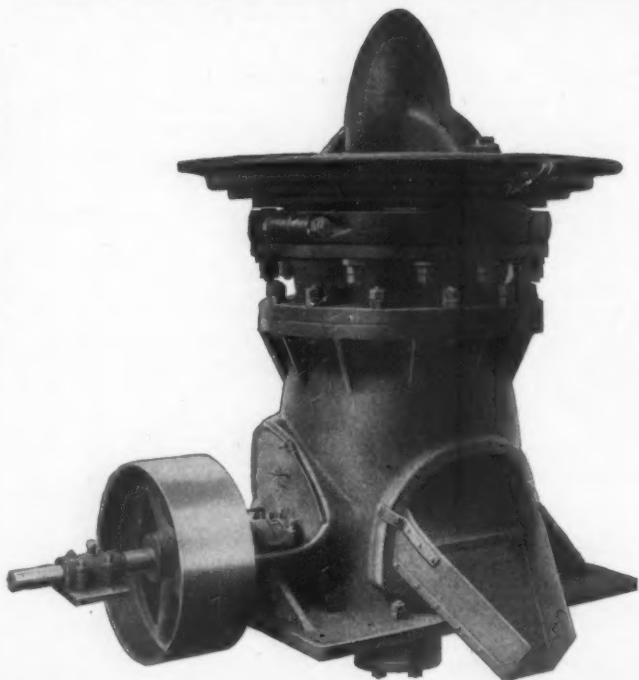
Austin Manufacturing Co., Chicago

Mussens Ltd., Montreal, Can., Canadian Sales Agents.



New York City Office
1682 FULTON BUILDING
Hudson Terminal

ALLIS-CHALMERS CO



GATES ROCK AND ORE BREAKERS

Break more rock per horse power consumed than any other machine on the market.

Have large and unobstructed feed openings. This minimizes arching and consequent loss of working time. Top suspension of shaft prevents bearings running hot under the hardest work.

Concaves can be changed without disturbing the spider or hopper. This is impossible with any other style of breaker.

Ask our nearest office about them.

General Offices: Milwaukee, Wis.

Offices in All Principal Cities.

ALLIS-CHALMERS CO.
Manufacturers of
Crushing and Cement Mach'y
Mining Machinery
Corliss Engines
Gas Engines
Steam Turbines
Hydraulic Turbines
Electrical Apparatus.

The Stalter Stone Company

CRUSHED STONE GROUND LIMESTONE FURNACE FLUX
RUBBLE, BUILDING AND CUT STONE

PIQUA, OHIO

August 16/1910.

Smith Co.,
A. F. Stalmans, Sales Mgr.
Milwaukee, Wis.

In reply to your favor of the 19th would
we appreciate an opportunity to express our
to the 7 1/2 Symon's Gyratory Crusher, which
in our new plant along in January of 1909.

This machine has been in constant use
first started at an expense for repairs
nothing. It will take in a piece of rock
large as the old-fashioned Gyratory was
rated capacity. The method of lubrication
able and dust-proof. A practical quar-
stand the advantage obtained by feeding
and yet this work is accomplished with
power than is required in the con-
ry Crushers.

We were greatly pleased to note
at for six Symon's Crushers in
accrete material for the improve-
ment of no reason why the Sym-
on's place where it deserves
Manufacturing trade.

Yours truly,
THE STALTER STONE CO.
Per *[Signature]*

THE HOKE COMPANY (INCORPORATED) GENERAL CONTRACTORS, LOUISVILLE, KY.

Sept 3-10

*Mr. A. W. Fitzsimmons,
Sales Mgr. T. L. Smith Co.*

Dear Sir,
It affords me pleasure to say our
#5 Symon's Crusher has and is giving us
satisfactory results. We have just completed a lot
of crushing for the Jefferson Co. Hy. we averaged
160 Cub Yds. 1 1/2 Stone per day, without an hour
delay caused by the Crusher.
I have run two other styles Gyratory Crushers
also Jaw machines none of which ever
gave better results.

Yours Truly,
[Signature]
H. Robbins

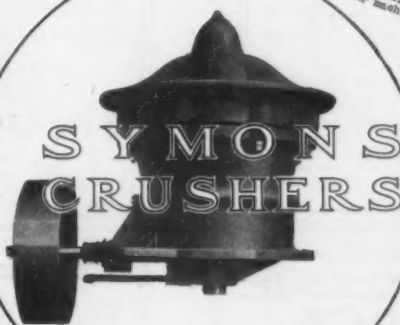
Kushville Railroad and Light Company
NASHVILLE, TENN.
August 20th, 1910.

Mr. A. W. Fitzsimmons,
c/o T. L. Smith Company
Milwaukee, Wis.

Dear Sir:-
Yours of the 19th inst., to hand. Will say that we
have no reason to regret the adoption of the Symon's crushers, and
are thoroughly satisfied with our plant, and should we ever see fit
to increase our crusher capacity would install the Symon's machine.
Our rock crushing plant is giving entire satisfaction and so far
are in favor of and prefer your crushers.

truly yours,
[Signature]
Roadmaster.

all portable con-



SYMON'S CRUSHERS



DITTLINGER LINE CO. MANUFACTURERS OF SNOW DRIFT HYDRATED LIME CRUSHED STONE IN ALL SIZES

New Braunfels, Texas.
Aug. 27th, 1910.

The T. L. Smith Company,
Gentlemen: Milwaukee, Wis.

It affords us pleasure to answer your let-
ter of the 19th inst. wherein you ask us to give you
a" honest expression on the 5 Symon's Gyratory Crusher
that we purchased of you some time ago.
When the writer referred your letter to our
Supt. for his opinion he was told to write you, and we
here repeat his own words.
"You just simply can't say too much in
praise of this machine for it has given us the very
best satisfaction and service from the minute we put
it to work."

"SNOW DRIFT"
Refined Lime
As they order with
every element of the
highest quality of the
material.

"SNOW DRIFT"
As they order with
every element of the
highest quality of the
material.

"SNOW DRIFT"
As they order with
every element of the
highest quality of the
material.

THE PORTAGE SILICA CO. SILICA SAND AND GRAVEL YUCONETOWN, OHIO.

Aug. 23, 1910.

The T. L. Smith Co.,
Milwaukee, Wis.

Gentlemen:
The No. 7 1/2 Symon's crusher, which you furnished us
the past spring, has proven entirely satisfactory. It has
done all the work that we have asked it to do, and is not
nearly up to capacity. We have not put through it more
than 75 tons per hour at any time, but have no doubt, what-
ever, that we could, at least, double this amount and very
probably exceed it.

Yours very truly,
THE PORTAGE SILICA CO.,
Per *[Signature]*
Gen. Mgr.

The United States Portland Cement Company

CONCRETE, SP. CO. Inc. 27, 1910.

T. L. Smith & Co.,
Milwaukee, Wis.

Gentlemen:
Answering your communication of Aug. 20th
relative to the performance of the No. 5 Symon's
Crusher, recently purchased from you, will ad-
vise that we have had the same in use for about
three months, with excellent results. The per-
centage of this crusher was determined by the ex-
cellent performance of the No. 5 Symon's crusher
that we have had in use for approximately two
years, and we are pleased to testify as to the
merit of your crushers.

Very truly yours,
THE UNITED STATES PORT-
LAND CEMENT CO.

WJ/AM

ANDREWS HYDRAULIC CONSTRUCTION COMPANY

CONCRETE, STEEL, IRON, BRASS, RUBBER, PLUM, WHEEL, BOTTOM,
POWER, PUMPS AND REVERSAL, HYDRAULIC CONSTRUCTION
NEW YORK OFFICE: CITY INVESTING BUILDING 160-17 BROADWAY
HOME OFFICE: 115 FEDERAL STREET, BOSTON

Esq. T. L. Smith Co.,
Majestic Bldg.,
Gentlemen: Milwaukee, Wis.

We beg to advise you that in July 1908 you shipped to us
for use at Douglas, Wyoming, one 7-Symon's Gyratory Rock Crusher with
the capacity of 200 tons per day, and also one of your smaller sizes
of jaw crusher, with a capacity of 75 tons per day.
These crushers were in constant use for a period of a year
and a half. They have given entire satisfaction and met fully the
requirements with a minimum expense for repairs.
We are entirely satisfied with the operation of these crushers
and expect to place an order for others on our southern work in the near
future.

Yours very truly,
ANDREWS HYDRAULIC CONSTRUCTION CO.,
[Signature]

AMERICAN SAND & GRAVEL CO.

CAMPBELLTOWN, N.J.

Sept. 6th, 1910

The T. L. Smith Co.,
Gentlemen: Milwaukee, Wis.

We are still running the new No. 5 Symon's Crusher,
the Garden City Sand Co. bought from you five years ago
and it is doing good work.

Very truly,
[Signature]
Central Sand Co.

Write for Catalog No. 166

THE T. L. SMITH COMPANY

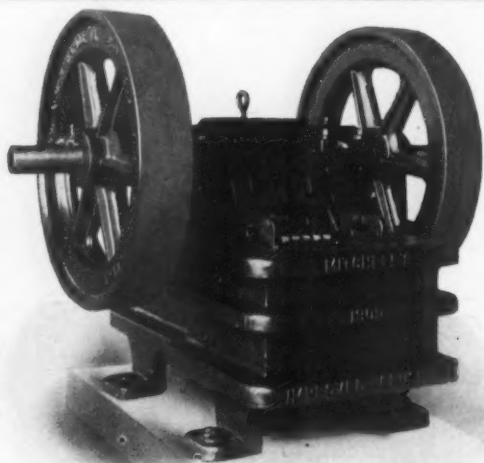
1322 Majestic Bldg.

MILWAUKEE, WIS.

Old Colony Bldg.

CHICAGO, ILL.

Tell 'em you saw it in ROCK PRODUCTS



Can You Use $\frac{1}{2}$ -Inch Rock?

There is a growing demand among contractors and road builders for rock in $\frac{1}{2}$ inch sizes.

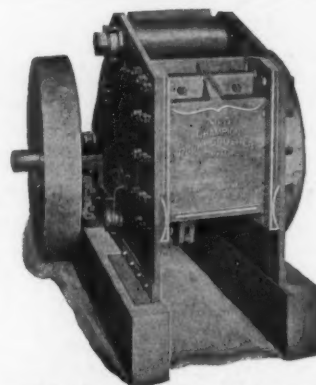
THE MITCHELL IMPROVED CRUSHER

Is the only machine which will reduce rock as it comes from the quarry to pass a $\frac{1}{2}$ inch ring in one crushing. It crushes over 80% uniform. It saves 25% in operating cost. It's so simple that no mechanic is required to run it.

We also make sizes which will crush 4 inch rock to sand in one operation. Ask about our all steel Eureka Crusher.

May we send you our new catalog 6R just off the press?

EUREKA STONE & ORE CRUSHER CO.
CEDAR RAPIDS, IOWA.



No. 5 Champion Steel Rock Crusher, 11x26 in. Opening.

Speaking of **ROCK CRUSHERS**

there are over 3,000 Champion Machines in use. Every machine is speaking for us by the good work it is doing.

Champion Crushers are made of steel. They work well and last well. We offer them as the best and most economical crushers made.

Five different sizes, from 75 to 300 tons daily capacity. Elevators, screens, conveyors, engines, boilers. Complete plants installed.

HANDSOME CATALOGUE FREE ON APPLICATION

The Good Roads Machinery Co.
KENNETT SQUARE, PA.

FARREL ORE AND ROCK CRUSHER

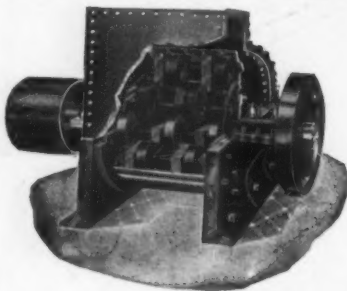
USED IN ALL PARTS OF THE WORLD - LARGE RECEIVING CAPACITY - SPECIALLY DESIGNED AND CONSTRUCTED FOR HARDEST KIND OF WORK
COMPLETE CRUSHING PLANTS OUR SPECIALTY

• SEND FOR CATALOGUE •

EARLE C. BACON, ENGINEER.

FARREL FOUNDRY & MACHINE CO. HAVEMEYER BUILDING, NEW YORK

The Pulverizer



That is Guaranteed to do Your Work

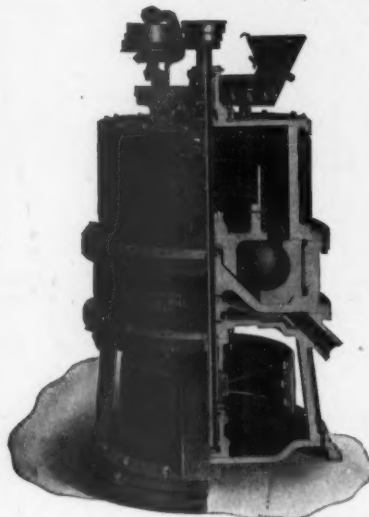
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American Pulverizer Co.

410 Jaccard Bldg.

St. Louis, Mo.

The Fuller-Lehigh Pulverizer Mill



Cement Companies equipped with Fuller Mills advertise the fact that the consumer gets 38 pounds more of the IMPALPABLE POWDER or REAL CEMENT in every barrel of cement produced by The Fuller Mill than by any other

Produces Commercially

Cement having a higher percentage of Impalpable Powder than can be obtained by any other mill. Tests show that the tensile strength of a 1-5 mortar made with cement pulverized by the Fuller Mill is higher than the tensile strength of a 1-3 mortar made with cement pulverized to the fineness required by the Standard Specifications.

Lehigh Car, Wheel & Axle Works

Main Office CATASAUQUA, PA.

New York, N. Y.

Denver, Colorado

Hamburg, Germany, Alsterdamm 7

Tell 'em you saw it in ROCK PRODUCTS



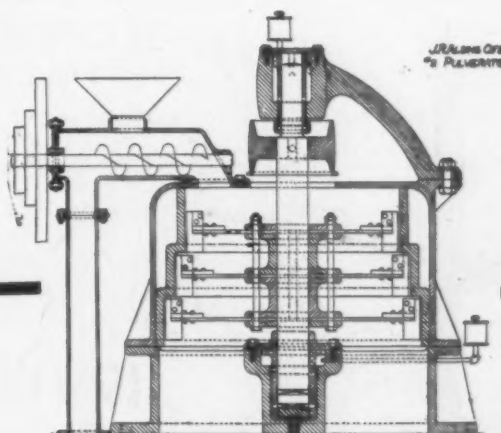
95-C IN SANDUSKY PORTLAND CEMENT COMPANY'S QUARRY

Bucyrus Shovels Are Loading Crushed Stone and Digging Blasted or Unblasted Cement Rock in the Leading Quarries in the United States.

THE BUCYRUS CO.

Branch Offices:
NEW YORK
SAN FRANCISCO
CHICAGO
DENVER
SPOKANE

P. O. Box T
South Milwaukee, Wis.



THE ALSING PULVERATOR No. 2

These machines are designed for very fine grinding and will reduce the material from a 2½ inch size to an impalpable powder. The grinding is done by the percussion principle instead of abrasion, etc., as in other makes. These Pulverators have demonstrated by actual use a great saving in cost of wear, tear, and maintenance. Simple in construction with fewer intricate parts to get out of order. They are so substantially constructed they will last a lifetime.

The J. R. Alsing Engineering Co.

INCORPORATED

90 WEST STREET, NEW YORK



"LITTLE GIANT" LOADING BLASTED ROCK.
Diamond Portland Cement Co., Middlebranch, O.

Giant Boom Shovels, six sizes, 1½ to 5 cubic yard dippers. **Little Giant Shovels**, two sizes, 1 ¼ cubic yard dippers. **Revolving Shovels**, three sizes, ¾ to 1½ cubic yard dippers. **Steam or Electric Power. Traction Wheels or Railroad Trucks.** Send today for booklets.

VULCAN

Steam and Electric Shovels

are the best that money can buy because they are correctly designed and substantially built. Every part is made of material which we know from our thirty years' experience in high class steam shovel building to be the best for the purpose. Before shipment each shovel is set up complete in our yards, thoroughly tested under full steam and all parts carefully inspected and adjusted. You are invited to witness this test and the shovel isn't shipped until both of us are satisfied that it is right in every respect. In addition to this, we give you the benefit of a 10 day trial test in your own quarry and you don't have to accept the shovel until we have demonstrated on your own work that it is just as represented. Every shovel we build is covered with an iron clad guarantee to give complete satisfaction. Write us today, giving a description of your material and the amount you wish to handle per 10 hours and we will promptly send full information, specifications, prices, etc., of a shovel which we will guarantee to do your work satisfactorily.

THE VULCAN STEAM SHOVEL CO.

Toledo, Ohio

NEW YORK OFFICE: 45 Broadway;
Telephone 4039 Rector

DENVER OFFICE
305 Appel Bldg.

CHICAGO OFFICE: 1301-2-3 Great Northern
Bldg.; Telephone Harrison 2838

Tell 'em you saw it in ROCK PRODUCTS



HOWELLS' Celebrated Ball Bearing Heavy Geared Post Drills

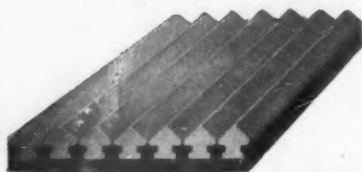
For boring anything that
an Auger will penetrate.

Awarded Gold Medal, St. Louis.

We make 40 different styles machines run by Hand, Compressed Air and Electricity for boring Fire Clay, Coal, Rock, Rock Salt, Gypsum and Plaster Rock. Send today for our handsomely Illustrated Catalogue.

HOWELLS MINING DRILL CO., PLYMOUTH, PA.
U. S. A.
(ESTABLISHED 1878.)

A Tempered Steel Jaw Plate for Blake Type Crushers



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

CHROME STEEL WORKS
CHROME, N.J., U.S.A.
(FORMERLY OF BROOKLYN, N.Y.)

¶ The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers.

¶ The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyratory Crushers, Segments for Corrugated Rolls, etc., etc.

¶ Our products in this line are sold with our special guarantee that they *will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.*

— Send for Descriptive Pamphlet —

Represented by

J. F. Spellman, 202 Century Building, Denver, Colo.

George T. Bond, Easton, Pa.

George W. Myers, San Francisco, Cal.

For Grinding Limestone

We Guarantee that

One Raymond Mill with Air Separator

will deliver at point of storage

3½ Tons per hour---98%, 200 mesh.

Think what that means. Compare it with the capacity of other mills.

The nearest approach to this capacity that we find claimed by other mills is

2½ Tons per hour

and that is merely for the actual grinding in the mill. It does not include separating or delivery of the finished product to point of storage, which must be accomplished by additional expensive machinery which is entirely eliminated in the Raymond System. The Raymond System does it all.

Furthermore, 3½ tons per hour is our conservative guarantee. As a matter of fact, where the material is favorable, the Raymond System can deliver and is actually delivering, a finished product at the rate of

6½ Tons per hour---92%, 200 mesh.

We can demonstrate to any cement manufacturer that he is losing money if he is not using the Raymond System for grinding his raw material and coal.

This is a big statement and we make it with a full realization of its gravity and importance to the Cement Industry.

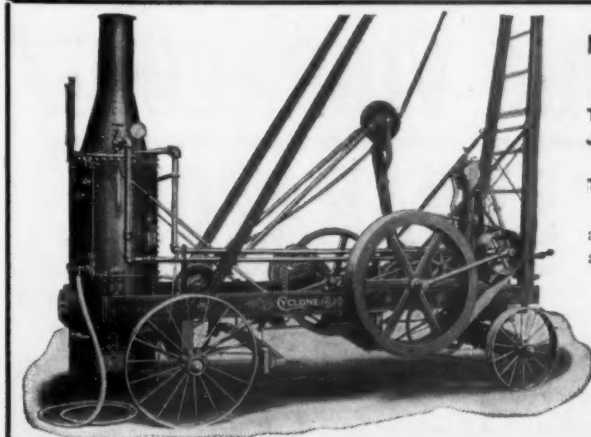
We can "make good" on this statement.

Do you want us to "show you"?

Raymond Brothers Impact Pulverizer Co.

517 Laflin Street, Chicago

Tell 'em you saw it in ROCK PRODUCTS



The Cyclone Wins Again

THE CONSTANT WINNING OF CONTESTS BY THE CYCLONE DRILLS DOESN'T JUST HAPPEN—there is a reason for it.

The **CONSTRUCTION, MATERIAL** and **PRINCIPLE** which enter into these drills are **THE REASONS.**

The test completed in the quarry of the U. S. Crushed Stone Company, at McCook, Illinois again demonstrates the superiority of the Cyclone drill from point of speed and maintenance; it adds another link in the chain of evidence that Cyclone drills are built right and run right.

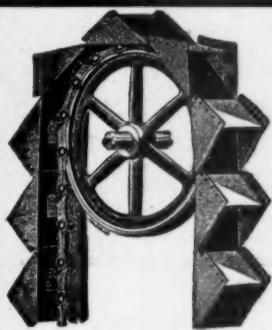
This is the reason why the U. S. and Canadian Governments, as well as the largest quarry people and railroad contractors, buy Cyclones.

WRITE US TO-DAY—DEPT. "20"

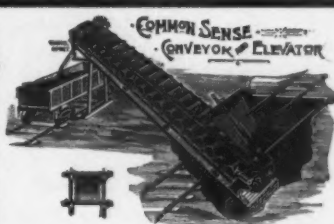
THE CYCLONE DRILL COMPANY,

ORRVILLE, OHIO

CHICAGO OFFICE—419 Fisher Bldg. NEW YORK OFFICE—1456 Hudson Terminal Bldg.



Send for Catalog 25



THE GENERAL CRUSHED STONE CO.,

So. Bethlehem, Pennsylvania,

have been using one of our Common Sense Elevators for six years—capacity 400 tons an hour.

THE C. O. BARTLETT & SNOW CO. CLEVELAND OHIO

Whenever you wish to

**SELL YOUR STOCK, to
DISPOSE OF YOUR
OLD MACHINERY,
WISH AN EMPLOYEE, or
WANT A POSITION,**

REMEMBER that **ROCK PRODUCTS** can do this for you promptly.



Wade Iron Sanitary Mfg. Co.

MANUFACTURER OF

Wade Back Water Gate Valves, Clean-Out House Drainage Fittings, Iron Catch Basins and Cast Iron Covers, Etc.

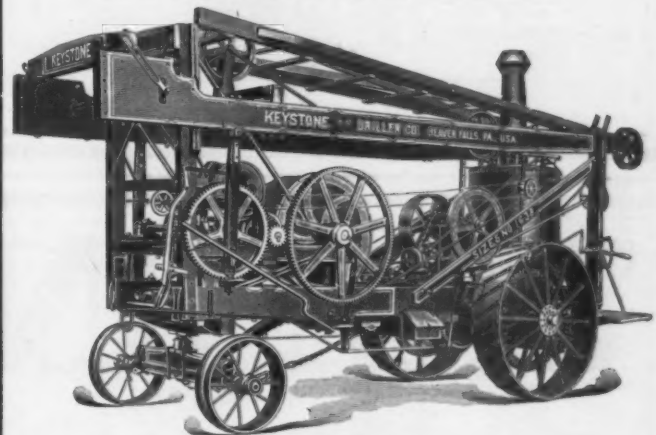
Send for Catalogue.

Long Distance Phone, Harrison 6713.

43 E. Harrison Street,

CHICAGO, ILLS.

For Big Blast Holes KEYSTONE CABLE DRILLS



Catalog No. 4

Keystone Traction Drill Co.

Monadnock Bldg.,
CHICAGO

BEAVER FALLS, PA.,
170 Broadway, New York

CARTHAGE,
MISSOURI



Deep Blast Hole Drilling

Is accomplished more economically than by any other method with the

"American" Drilling Machines

There is 40 years' experience behind these drills—they are standard.

Where electric power is available, equipped with motor they form the most portable and economical drill for quarry use.

Equipped with any power they are backed by the experience and reputation of the world's oldest and largest builders of this kind of drilling machinery.

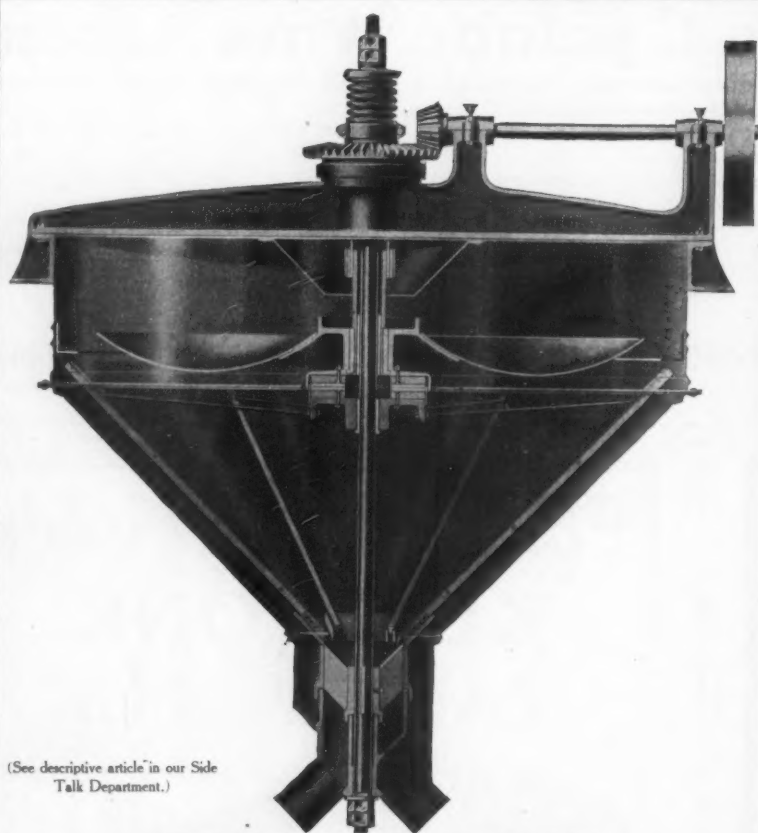
Tell us your blast hole requirements. We have 59 regular styles and sizes of machines for your selection, made in types to meet every possible condition of work.

Write for our new catalog No. 105, the most complete "Drill-Hole" catalog ever issued.

THE AMERICAN WELL WORKS

General Office and Works: AURORA, ILL., U. S. A. Chicago Office: First National Bank Building

Tell 'em you saw it in **ROCK PRODUCTS**



(See descriptive article in our Side
Talk Department.)

Sectional View of the Vibracone Separator

THE VIBRAZONE SEPARATOR

Has the largest capacity of any
Screening Machine yet designed

USED IN CEMENT PLANTS

and for Clay, Ores, Fertilizers, etc., making
a clean, uniform separation from 3 to
100 meshes per inch.

ITS SIX POINTS OF EXCELLENCE

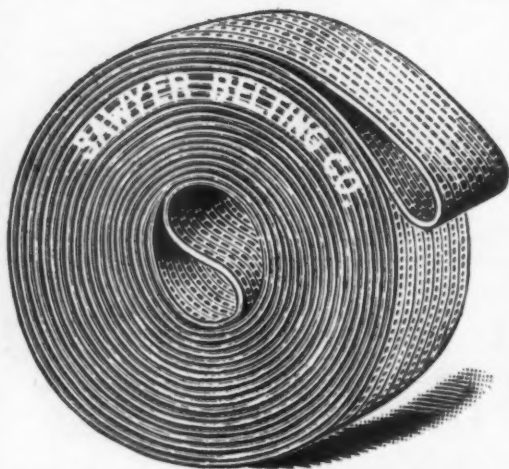
Capacity	Absolutely Dustless
Perfect Distribution	Substantial Construction
Large Screening Surfaces	Practical and Durable

Our 672 page catalog of conveying and screening machinery
describes this Separator fully. Write us.

STEPHENS-ADAMSON MFG. CO.
CONVEYING, SCREENING AND TRANSMISSION MACHINERY
AURORA, ILLINOIS

50 Church St., NEW YORK—BRANCHES—164 Dearborn St., CHICAGO

THE ONLY WAY



TO APPRECIATE THE
ECONOMICAL VALUE

OF SAWYER STITCHED
CANVAS BELTING IS TO

**GIVE IT A TRIAL. IT'S
BEEN MAKING GOOD
FOR TWENTY YEARS.**

**FOR FLAT, TROUGH, OR BUCKET ELEVATING, MAIN DRIV-
ING, IT HAS PROVEN ITSELF TIME AND TIME AGAIN**

A GENUINE MONEY SAVER

ADDRESS ENG. DEPT.

SAWYER BELTING CO.

CLEVELAND, O.

Tell 'em you saw it in ROCK PRODUCTS

MACHINERY

FOR Industrial Plants



We manufacture machinery for transmitting power, and for elevating and conveying materials in and about cement plants, rock crushing plants, lime plants, mortar works, plaster works, and other industries.

We manufacture screw conveyors, belt conveyors, and all sorts of chain and cable conveyors, for handling rock, lime, sand, etc.

We manufacture elevators, also, for handling the same kinds of material. Our lines include shafting, couplings, bearings, collars, pulleys, gears, rope sheaves, sprocket wheels, elevator buckets and bolts, steel elevator casings, etc.

We have our own foundry, sheet metal department and machine shop. We employ first-class help in all departments and use high-grade materials.

When you are in need of anything in our line, try us.

Catalog No. 34

H. W. Caldwell & Son Co.

17th St. and Western Ave., Chicago

Fulton Bldg., Hudson Terminal, No. 50 Church St.
NEW YORK CITY

Rubber Belting Troubles Overcome

Every difficulty heretofore met with in the use of rubber belting entirely eliminated in

"R. F. & C." (Rubber Filled and Covered) Solid woven rubber belting.

Ask us for sample and further information.

W. H. SALISBURY & CO., Inc.

Est. 1855

166-168 Wabash Ave., Chicago, Ill.

THE GANDY BELT



In the last two ads, we talked about the cost of the Gandy Belt. First—we told you it was only $\frac{1}{2}$ the cost of leather, and second—25% cheaper than rubber.

Now we tell you it has been on the market for thirty-two years.

Don't you think that is the best kind of a guarantee? Isn't it proof that although we sell the Gandy Belt much cheaper than either leather or rubber,—it does "Make Good"?

The Gandy Belt is acknowledged to be the most durable and economical belt for Driving, Elevating and Conveying. Unaffected by heat, steam, water, dust, or atmospheric changes.

We want to prove these things to you.

Let us send you testimonial letters that tell of Gandy successes in your particular line of work. They're remarkably convincing evidence.

The use of The Gandy means a saving of money to you. Write for our free booklet, "Experiences with The Gandy Belt."

But write now, before you forget.

The Gandy Belting Company

744 West Pratt Street
Baltimore, Md.

New York Office: 88-90 Reade St.

Duncan Foundry and Machine Works

Manufacturers of
Mining Cars, Car Wheels, Resolving Screens, Shaker Screens, Fans
and All Kinds of Mining Machinery
Alton, Illinois, May 13th, 1910.

The American Fabric Belting Co.,
Cleveland, Ohio.

Gentlemen:-

We are in receipt of yours of the 12th inst.

In reply will say that we have been using the Nestor belt in widths varying from 1-1/4" to 16" in both drive belts and conveyor belts.

We have one of your conveying belts in operation since last August conveying wet coal and it appears to be in very good condition yet. We have also had very good success with your drive belts on straight line drives. For a drive belt we think that they are far superior to any canvas belt that we have ever used and seems to have as long a life as the leather belt.

Yours truly,

DUNCAN FOUNDRY & MACHINE WORKS

E. D. Duncan

"NESTOR"

**Solid Woven
Waterproof
Belting**

Can be run
slacker and at
the same time
transmit more
power than any
other belt.

"NESTOR"

The Most Economical Belt for Conveyor or Transmission.

THE AMERICAN FABRIC BELTING CO.

CLEVELAND, OHIO



Leviathan Belting

MAIN BELTING COMPANY, Market and Randolph Sts.
CHICAGO, ILLINOIS

Philadelphia

New York

Boston

Buffalo

Pittsburg

Tell 'em you saw it in ROCK PRODUCTS



MAXECON

Means MAXimum of ECONomy

Years of experience with the assistance of our hundreds of customers has found THE SOLUTION OF GRINDING HARD MATERIALS. The MAXECON PULVERIZER combines highest EFFICIENCY, greatest DURABILITY and assured RELIABILITY. Uses the LEAST HORSE POWER per capacity. Embodies the features of our Kent Mill with improvements that make it MAXECON.

WE DO NOT CLAIM ALL of the CREDIT for this achievement

We have enjoyed the valuable suggestions of the engineers of the Universal Portland Cement Co. (U. S. Steel Corp.), Sandusky P. C. Co., Chicago Portland C. Co., Marquette Cement Mfg. Co., Western P. C. Co., W. H. Harding, Prest., Coplay P. C. Co., Cowham Engineering Co., Ironton P. C. Co., Alpena P. C. Co., Castalia P. C. Co., Pennsylvania P. C. Co., and many other patrons.

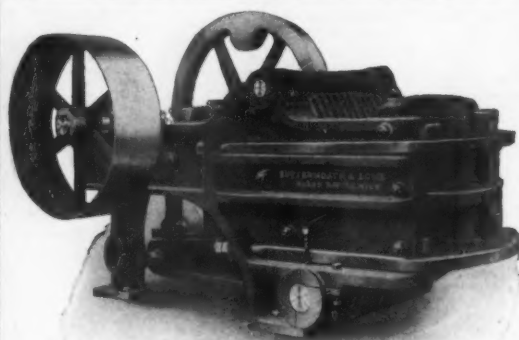
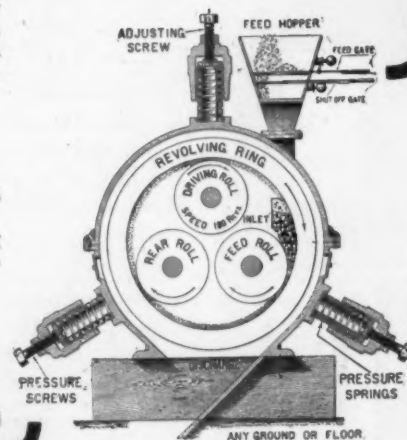
THE RING WOBBLES

The FREE WOBBLING POUNDING RING instantly and automatically ADAPTS its position to the variations of work. Its GRINDING ACTION is DIFFERENT than any other; besides the STRAIGHT rolling action of the rolls, the SIDE to SIDE motion of the ring makes the material subject to TWO crushing forces and DOUBLE OUTPUT results.

See it at the Cement Shows: NEW YORK, Madison Square Garden, Dec. 14-20, 1910
CHICAGO, Coliseum, February 17-23, 1911

KENT MILL CO.

170 BROADWAY, NEW YORK CITY
LONDON, W. C., 31 HIGH HOLBORN
CHARLOTTENBURG 5, WINDSCHEID STRASSE 31, BERLIN



Nippers—made in 3 sizes.

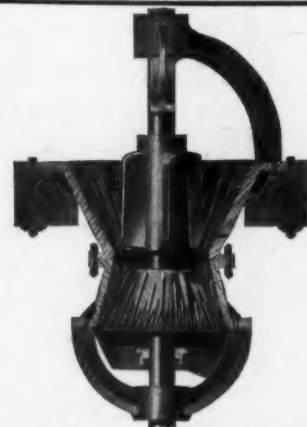
Jaw and Rotary CRUSHERS

For all Rocks and Ores Softer than Quartz

GYPSUM MACHINERY—We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

Special Crusher-Grinders for Lime

Butterworth & Lowe
17 Huron Street, Grand Rapids, Mich.



Crackers—5 sizes—many variations.

Finest Line of Gypsum Machinery

MADE

KETTLE CRUSHER NIPPERS

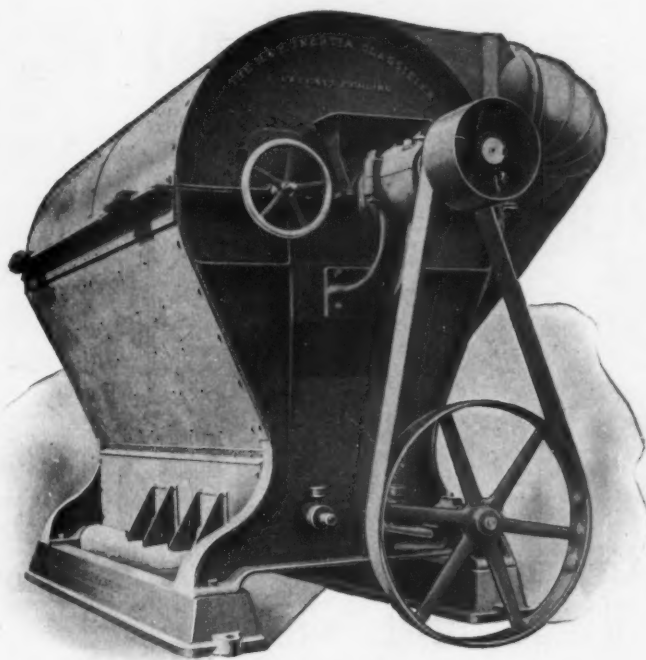
ASK FOR CATALOG OF

MOGUL NIPPERS, OPEN DOOR POT CRUSHERS

Best Mills in the United States Have Them

MCDONNELL BOILER & IRON WORKS, Des Moines, Iowa, U. S. A.
"Formerly Des Moines Mfg. & Supply Co."

Tell 'em you saw it in ROCK PRODUCTS



PATENTS PENDING

FEW FACTS

ABOUT

The Morscher-Ehrsam Inertia Classifier

Adjustable for making separations from 80 mesh to 200 mesh.

Intake capacity from 5 to 10 tons per hour

Separations as positive as can be made on screens, with no perceptible variations in product owing to the variations of the speed or load.

Requires no more space than a Reel or Screen and the capacity is 20 times as great.

Material can be spouted direct from elevator head into machine.

No dust collectors or air spouts required.

We recommend its use in connection with gradual reduction on all classes of material where fine product is required. Write for more information.

Manufacturers of Jaw and Rotary Crushers for Gypsum, Vibrating Screens, Hair Pickers, Wood Fibre Machines, Calcining Kettles, Plaster Mixers, Power Transmission

The Enterprise Vertical Burr Mill

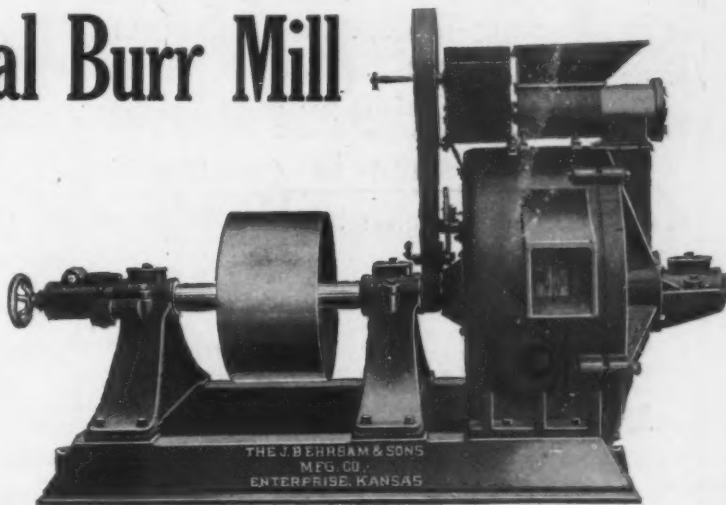
is especially designed for grinding gypsum, limestone, coal, coke, paint, rock, foundry facing, carbon, salt, and other similar substances.

It is STRONG and DURABLY built.

Has INTERCHANGEABLE STONES, which can be easily removed for dressing and replaced.

Is provided with our POSITIVE CONTROLLABLE FEEDER, which feeds an absolutely uniform stream into the mill at the required capacity.

MANY OTHER
ADVANTAGES.



The J. B. Ehrsam & Sons Mfg. Co.

Designers and Builders of

Complete Equipment for Plaster Mills

ENTERPRISE, KANSAS, U. S. A.

Tell 'em you saw it in ROCK PRODUCTS

Improved
Modern
Lath



Fire-Proof
Insulating
Sound-Deadening

KING'S FIBROUS PLASTER BOARD

By it's superior **Strength** and **Toughness** furnishes the Building Trades that which they have been demanding for so long.

ADVANTAGES

Produce strong, solid walls and ceilings.

Quick-drying plastering.

Protects wood frame from moisture in plastering—no confined dampness in partitions and walls.

No corrosion by rust.

Saves time in construction.

Sound deadener between floors and in partitions.

Insulator of heat and cold.

Warm buildings in Winter.

Cool in Summer.

Incombustible (fireproof) property insures protection of human life and against destruction of building by fire.

Economical.

Standard Size 32x36 inches. $\frac{1}{4}$ -inch thick.

Special nails shipped on order.

SERVICE The location of our works at the greatest railroad terminus in the East and our several warehouses enable us to make **Prompt Shipments at all times.**

J. B. KING & CO.

Plaster Board Department:

17 State Street, New York, N. Y.
161 Devonshire St., Boston, Mass.

WAREHOUSES:

Boston, Mass. Providence, R. I.
Chester, Pa. Hartford, Conn.
Norfolk, Va. Buffalo, N. Y.
Brunswick, Ga.

WORKS:

New Brighton, Staten Island,
NEW YORK

Stucco Retarder

Strong
Uniform
Fine Ground

RETARDER

We are the oldest Retarder firm in the United States, and above is our motto. New fire-proof plant and prompt service.

FREE SAMPLE ON REQUEST

Chemical Stucco Retarder Co.

WEBSTER CITY, IOWA.

INCORPORATED 1895

CUMMER CONTINUOUS PROCESS
FOR

**CALCINING
GYPSUM**

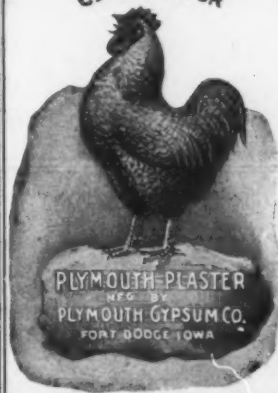
NO KETTLES
USED

PLANTS IN
OPERATION

Great Saving in Cost of Manufacture and Quality of
Product Guaranteed.

The F. D. CUMMER & SON CO., Cleveland, O.

CROWING FOR



**PLYMOUTH
CEMENT**

AND

**WOOD FIBER
PLASTER**

The Brand that's Made from Pure
Gypsum Rock

WRITE US FOR PRICES AND
ADVERTISING MATTER

Plymouth Gypsum Co.

Fort Dodge, Iowa

RETARDER Wood Fiber

THE OHIO and BINNS RETARDER CO.
PORT CLINTON, OHIO

Reliable Stucco Retarder=Strong=Uniform in Strength=
Duplicate power plant (electric and steam power) installed so as to preclude any possibility of shut down and consequent shut down of mixers who depend upon us for their supply of Retarder. We have a capacity large enough to supply every retarder user in the U. S. and Canada, and some to spare for Europe. Our mills are fireproof in every particular. Write us for prices and information.

THE OHIO and BINNS RETARDER CO.
PORT CLINTON, OHIO

Tell 'em you saw it in ROCK PRODUCTS

\$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢

"NIAGARA" IS THE BRAND

We cannot dwell too strongly upon the increased bulk and consequent greater covering capacities of our "NIAGARA" line of wall plasters, their favorable working qualities under the mechanics' tools and final strength.

Niagara Neat Cement

Niagara Sanded Mortar

Niagara Wood Fibre (Wood Pulp)

Dealers realize the additional dollars in the handling of our products because of their preference by the trade and good sense is displayed in pushing their sale. MIXED CAR LOAD SHIPMENTS of wall plasters, hydrated finishing lime, plaster board, land plaster, and calcined plaster for finishing purposes.

ALL BUSINESS DIRECT WITH SALES OFFICE.

NIAGARA GYPSUM CO.

BUFFALO, N.Y.

¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢ \$ ¢

KING'S WINDSOR CEMENT FOR PLASTERING WALLS AND CEILINGS

Buffalo Branch, CHAS. C. CALKINS, Manager
322 W. Genesee Street.

Not the hardest, but the toughest and best Wall Plaster made—Can be applied with less labor. Has greater covering capacity than any other similar material

J. B. KING & CO., 17 State Street, New York.

Robert W. Hunt Jno. J. Cone Jas. C. Hailstead D. W. McNaugher

ROBERT W. HUNT & CO., Engineers

Bureau of Inspection, Tests and Consultation

New York—90 West St. Chicago—1121 The Rookery. Pittsburgh—Monongahela Bank Bldg.
London, E. C., Eng.—31 Norfolk House. San Francisco—425 Washington St.
Montreal—Can. Exp. Bldg. St. Louis—Syndicate Trust Bldg. Mexico City, Mex.—20 San Francisco St.
Tests and Inspection of Cement—Reinforcing Steel and all Cement Materials and
Products—Supervision of Construction and Tests of Concrete Structures—Reports on
Cement Properties and Existing Concrete Structures—Design of Cement Plants and
Inspection of Cement Machinery—Chemical and Physical Testing Laboratories
"All Manner of Tests on all Classes of Material"

THE FULLER ENGINEERING CO.

DESIGNING, CONSTRUCTING AND OPERATING
ENGINEERS ANALYTICAL CHEMISTS

CEMENT MILLS A SPECIALTY

OFFICES: ALLENTOWN NAT. BANK BLDG. ALLENTOWN, PA.

Dealers
or
Contractors:
Write for
Samples,
Prices and
Particulars.
You will be
Interested

We Carry a Full Assortment of Sizes of

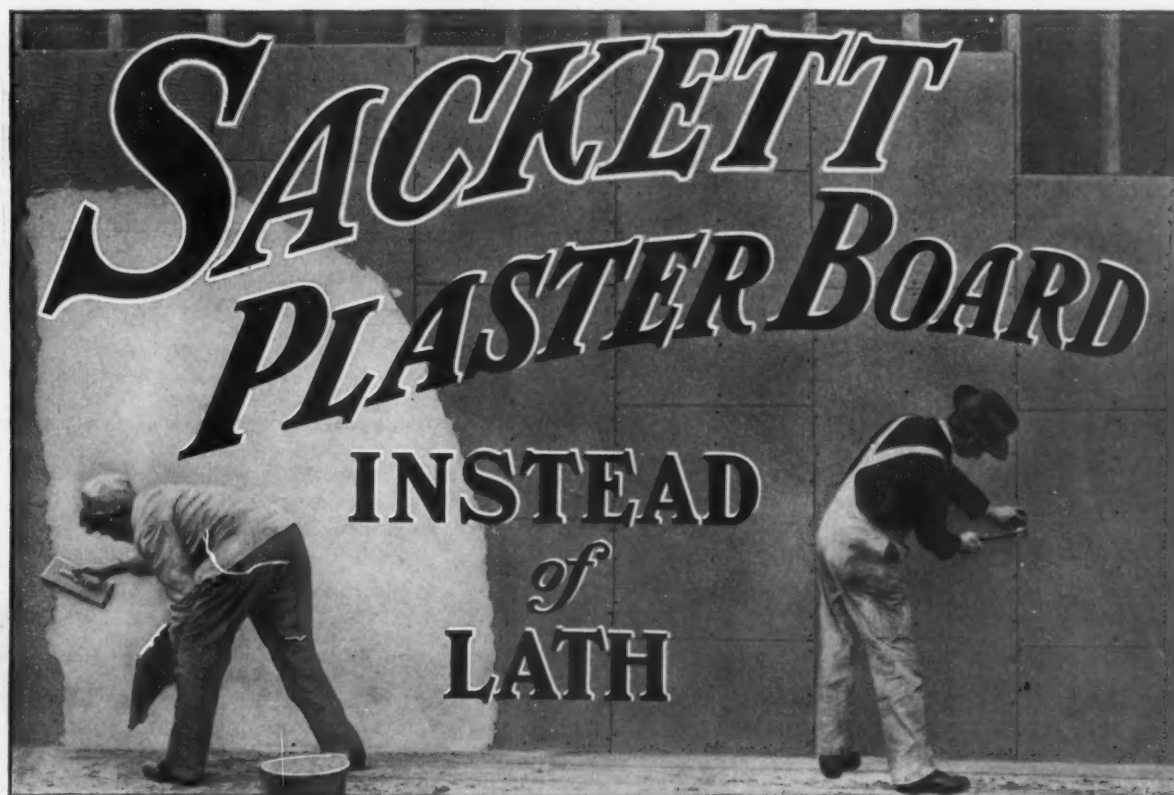
Beaver Board

The Most Beautiful, Durable and Economical Covering
for all Kinds of Walls and Ceilings. Takes
the Place of Lath and Plastering.

WISCONSIN
LIME &
CEMENT CO.
Selling Agents and
Distributors
607 Chamber of Commerce
Chicago, Ill.

Tell 'em you saw it in ROCK PRODUCTS

Good Judgment Demands



THE VOICE OF EXPERIENCE

There's nothing new fangled about SACKETT Plaster Board. It has stood the test of time, demonstrating its superiority over other methods of lathing—received and approved by the entire building world.

SACKETT PLASTER BOARD

Fireproof Soundproof Verminproof

is a staple, quick selling commodity in every up-to-date dealer's line. The reason for its rapidly growing demand is self evident—natural demand of architects and builders generally for

BETTER! SAFER! MORE SANITARY WALLS!

If you don't know SACKETT Plaster Board and its many advantages, do yourself the justice to get the facts immediately—facts of vital interest—and profit to you.

We can help you help yourself—Send for the facts at once.



United States Gypsum Company

New York Cleveland Chicago Minneapolis Kansas City San Francisco

Tell 'em you saw it in ROCK PRODUCTS

Plaster Quality

The highest perfection in the
production of plaster
has been reached
by the

Dakota Plaster Company

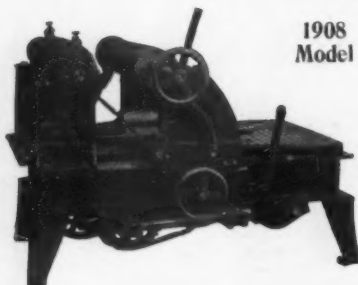


Why?
Listen:

The Dakota Plaster Company's deposits are 98 per cent Pure Gypsum. Its plant, built in 1910, was erected without regard to cost, and is one of the best equipped and latest improved plaster mills in the world.

The Dakota Plaster Company
Black Hawk and Rapid City, S. D.

The Shuart-Fuller Improved Fiber Machine



1908
Model

Has an automatic, proportional, increasing feed, which keeps grade of fiber uniform from start to finish, and holds machine to highest possible rate of production for the grade of fiber and number of saws. Does not begin with fiber and end with dust, nor fall off in rate of production on each log, from 40 to 80 per cent as do the ordinary non-increasing feed machines. Works logs up to 24x24 inches. No royalty string attached to sale. Pay no attention to misrepresentations of our competitors, but write for descriptive circular and terms to

The Shuart-Fuller Mfg. Co.
ELYRIA, OHIO

THE SHUART-FULLER CO., Elyria, Ohio.

Gentlemen:—We are just in receipt of advice from our New Mexico plant wherein they state that the Wood Fiber Machine recently shipped by you is doing all that we have asked of it and running very fine.

ACME CEMENT PLASTER CO.,
By Jas. R. Dougan, Sec.

THE F. D. CUMMER & SON COMPANY.

A. E. CUMMER, Pass and Tread
F. D. CUMMER, Vice-Pass and Tread

MANUFACTURERS OF

CABLE ADDRESS
CUMMER/CLEVELAND

THE CUMMER DRYERS, CALCINERS, ROASTERS & ASPHALT PLANTS.

CLEVELAND, OHIO, May 4, 1910.

Rock Products Co.,

Chicago, Ill.

Gentlemen:—

Yours of the 3rd instant received.

We think very highly of your paper as an advertising medium for meeting the gypsum and crushed rock trade. We are very well pleased with the results obtained as is evidenced by the fact that we continue to advertise with you.

Yours very truly,

F. D. CUMMER
President.

Tell 'em you saw it in ROCK PRODUCTS

It Pays to Advertise in ROCK PRODUCTS

SPECIAL NOTICE—All orders and acceptances subject to delay occasioned by causes beyond our control and with the understanding that no claims for damages or losses will be allowed. Our liability ceases when goods are delivered to carrier. ADDRESS ALL LETTERS TO THE COMPANY.

L. E. RAYMOND, Pass and Tread

C. M. LAURENCE, V.-Pass and Tread

P. C. SPRING, Secy

THE

RAYMOND BROS. IMPACT PULVERIZER CO.

ROLLER MILLS, AUTOMATIC PULVERIZERS
VACUUM AND SCREEN SEPARATORS
SPECIAL EXHAUST FANS

TELEPHONE MONROE 1545
CABLE ADDRESS
RAYBROS

OFFICE AND WORKS
880 LAFLIN STREET
1800 W. HARRISON STREET

ENGINEERING DEPARTMENT
PULVERIZER DEPARTMENT
THE RAYMOND BROS.

CHICAGO, May 6, 1910.

Rock Products,

355 Dearborn St.,

Chicago.

Gentlemen:

In reply to your inquiry of May 3rd, we have carefully checked up our records and are pleased to advise that the inquiries we have received as a result of our Ad. in your paper cost us less than from any other high class medium in which we advertise and we have been able to trace some profitable business closed through our advertisement.

Trusting this covers the ground to your satisfaction, we remain,

Yours very truly,

RAYMOND BROS. IMPACT PULVERIZER CO.

C. M. Lawrence
V.P. & Mgr.

All agreements are subject to change, alterations, or other delays beyond our control.



CABLE ADDRESS: HERCULES/ROCHESTER, N.Y.
WESTERN UNION CODE

209-309 ST. PAUL STREET

CEMENT WORKERS TOOLS, CEMENT MIXERS,
CURBING OUTFITS, ETC.

Rochester, N.Y.

5/21/10

Mr. Bernard L. McNulty,

Francis Publishing Co.,

Chicago, Ill.

Dear Sir:—

In answer to your favor of the 3rd, would state that we have been almost continuous advertisers in Rock Products since the year of 1905 and while not the largest advertisers, we have always felt that the publication paid us handsome returns on the amount expended and we can truly state that the courtesies extended us by the members of your company in the way of write-ups and general help are highly appreciated.

Very truly yours,

CENTURY CEMENT MACHINE CO.

ATB/M

at Hadley

Williams Raw Material Grinders

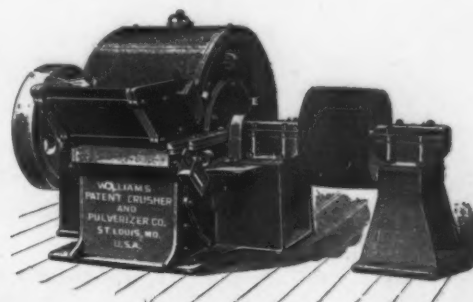


The "New Williams" Universal, our fine grinder, is used for preliminary work ahead of the Tube Mill, capacity No. 3 size, 800 bbls. in 22 hours, 95 per cent. through 20 mesh, with 40 to 50 horse power.

Also used extensively for fine grinding on Gypsum, Lime, Coal and Shale.

The "Vulcanite" Mill, our coarse grinder, prepares raw material ahead of Roller Mills. The No. 3 size has a capacity of 20 tons per hour, fineness, $\frac{1}{2}$ -inch, $\frac{1}{4}$ -inch and $\frac{1}{8}$ -inch, horse power 40 to 45.

Over 1550 machines in daily operation.
Bulletin No. 12 gives further details.

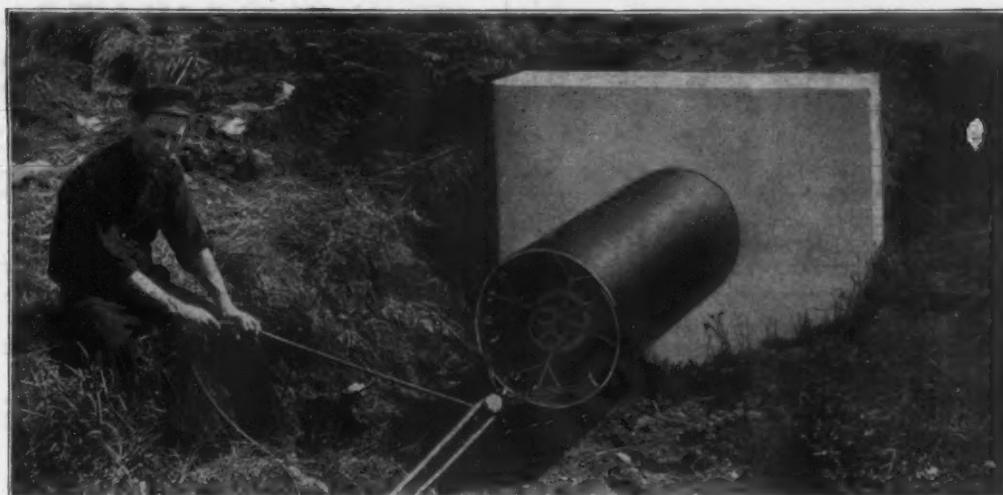


The Williams Patent Crusher & Pulverizer Co.

Works: 2701 North Broadway, St. Louis, Mo.
Sales Office: Old Colony Building, Chicago
San Francisco Offices: 428 Monadnock Building

MIRACLE COLLAPSIBLE STEEL FORMS

Absolutely
No
Trouble
in
Removing
the
Miracle
Forms



Showing Convenient and Easy Method of Withdrawing Form After Collapsing.

The Forms
Cannot
Stick
as they
Collapse
Enough
to Remove
Easily

A Stake and Pulley is All that is Necessary when

One Man Does the Work

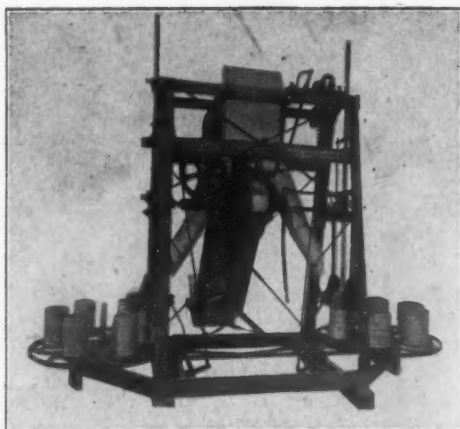
MARSH CO.

971 Old Colony Building

CHICAGO, ILL.

Tell 'em you saw it in ROCK PRODUCTS

THE McCracken Double Tile Machine



The McCracken Double Tile Machine makes all sizes of cement tile from 4 to 16 in. in diameter at the rate of from 10 to 20 tile per minute. Also makes building blocks or construction tile 8x8x16 at the rate of 2000 to 3000 per ten hour day.

The machine will make two different sizes of tile at the same time or building blocks and tile at the same time, or either end of machine can be used without using the other.

The machine has no cams and runs just as smooth at high speed as when running slow. Takes less labor per 1000 tile than any other machine.

Tile are packed so hard that the large sizes can be carried without the use of pallets. Machine is very simple and strong and runs very light, and elevator can be started and stopped without stopping the machine.

See the McCracken Machine before you buy. Write to

The Sioux City Cement Machinery Company
219 4th Street, SIOUX CITY, IOWA

The Chase Roller Bearing Car FOR CEMENT, BLOCK AND TILE



**BOTTOM AND SIDE DUMP CARS, TRANSFER
CARS, TURNTABLES, SWITCHES, ETC.**

You cannot afford to overlook the necessity of handling your material and product as economically as your competitor. Our goods will help you do this.

WRITE US FOR CATALOG AND PRICES

Chase Foundry Manufacturing Co.
COLUMBUS, OHIO

PERFECTION IN BLOCK MAKING

If you wish to attain this you should combine these three important features:

**Wet Process, Face Down,
Damp Curing.**

The PETTYJOHN INVINCIBLE Machine does this, and is the only machine that does. Tandem Invincible makes two blocks at once. Price \$65.00 and up. Single Invincible, \$35.00 and up. With our Triple Tier Racking System green blocks can be stacked three high direct from machine with inexpensive home-made rigging. Plans and blue prints free to customers. It economizes space, reduces off-bearing distance and above all insures slow, even, damp and perfect curing and bleaching.

Write for our latest edition of "Stone Making," a book of valuable data, just off the press—FREE

THE PETTYJOHN COMPANY

614 North Sixth Street Terre Haute, Indiana

Red, Brown, Buff and Black



**MORTAR
COLORS**



The Strongest and
Most Economical
in the Market.

Our Metallic Paints and Mortar Colors are unsurpassed in strength, fineness, and body, durability, covering power and permanency of color. Write for samples and quotations.

CHATTANOOGA PAINT CO.

Chattanooga, Tennessee

The Schenk Cement Drain Tile Machine

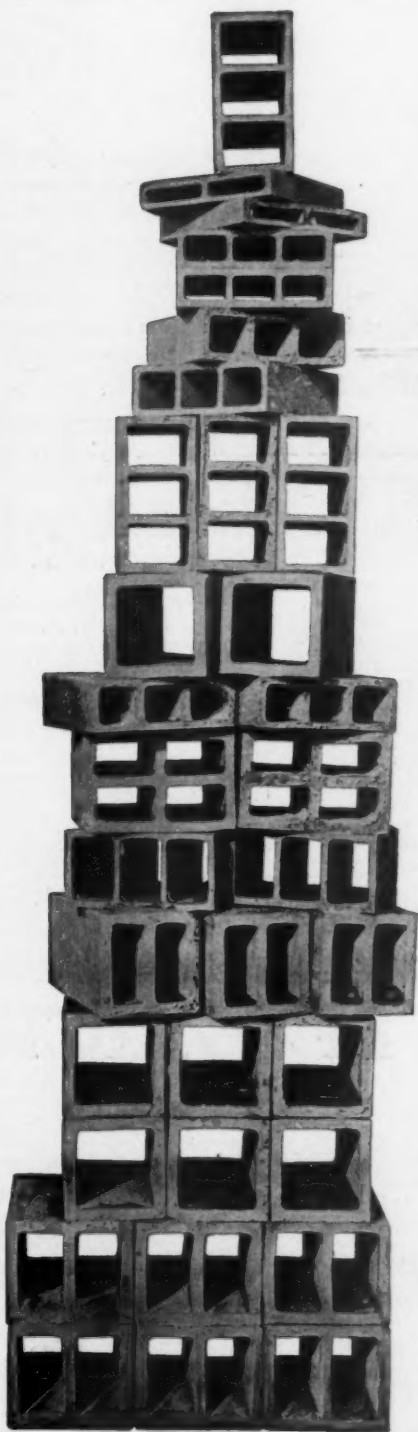


¶ The Schenk Machine has a capacity of from 3,000 to 5,000 cement drain tile in ten hours; it requires the aid of six men, a mixer and power to operate. The Schenk is sold on an iron-clad guarantee and is backed by the basic patents and the oldest and strongest company in the business.

¶ Our free catalog will give you information relative to the equipment necessary, the construction of buildings, the amount of capital required, and the amount of profit to be expected; in fact it tells you how to start a cement drain tile plant and what you will be able to realize on the investment.

The Cement Tile Machinery Co. Rath Street
Waterloo, Iowa

Tell 'em you saw it in ROCK PRODUCTS



Our 1910 Catalog

Gives the method of manufacture, fire and compression test data, and the endorsements of local architects and other building authorities. Also many other articles and illustrations of interest to the general public. May we send you, postpaid, a copy of our Catalog?

The Concrete Stone & Sand Co.
Youngstown, Ohio.



Has The First *Pauly* Concrete Tile Plant Been Successful?

This question, which is usually first asked us by interested parties, is best answered by two facts:—1. During the year of 1909, the demand in Youngstown, Ohio, could not be satisfied, and, (2) the plants capacity output is sold until the middle of the summer of 1910, in the City of Youngstown alone. In this connection it might be stated also that 4 tiles of our most common size, 8x8x16, can be manufactured from one cubic foot of concrete, with a labor cost of 50 per cent of the cost of concrete anywhere east of the Mississippi.

A weatherproof home of fireproof material can now be built for almost wooden construction cost. These points have been clearly demonstrated in Youngstown by practical use of *Pauly* Concrete Structural and Fireproofing Tile, in a variety of buildings. The result gained has not only been a financial success, but also an enviable position in the estimation of the entire building public.

Persons interested in this practical and profitable phase of the concrete business, are always welcome by the The Concrete Stone & Sand Co., Youngstown, Ohio, where they will be shown every detail of the initial factory.



Tell 'em you saw it in ROCK PRODUCTS

HERCULES BLOCK MACHINES

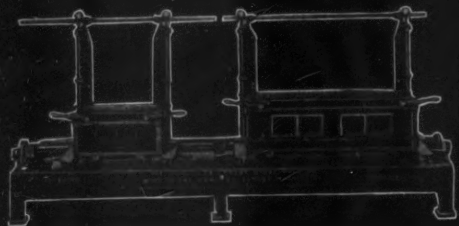
ARE THE FASTEST, SIMPLEST,
STRONGEST AND
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THE ONLY machine making any size of stone from a 3 inch block to a 6 foot water table.

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THE ONLY machine on which four 16 inch stone can be made at ONE time, or two 20 inch, 24 inch or 32 inch stone at one time.



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Built along Correct Lines and Endorsed by the Leading Contractors and Builders. They are used in all parts of the world.

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are the BEST for you—Because they go Further—Do more and Do it Better than other machines.

They are unlimited as to production. You can start with a small equipment and add to it gradually according to the demand.

And not be compelled to be continually buying new machines.

If you are going to manufacture Concrete Blocks write for our Catalogue.

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The Perfection Power Block Machine is the only Power Block Machine on the market, making a Hollow Concrete Building Block under Heavy Pressure and at Great Speed.

Machines have been in constant use since July 1st, 1905, with practically no expense for repairs.

The machine handles sand, gravel, crushed rock, slag and coloring materials perfectly.

All materials accurately measured, thoroughly mixed and uniformly pressed under 200,000 pounds pressure.

Makes 8, 9 and 12x8x24 inch blocks in five faces, and fractional and angle blocks.

Machine can be arranged to make Two Piece and Faced Blocks, if desired.

All machines delivered set up and put in operation to show a guaranteed capacity of 60 blocks (12x8x24 inch) per hour with five men.

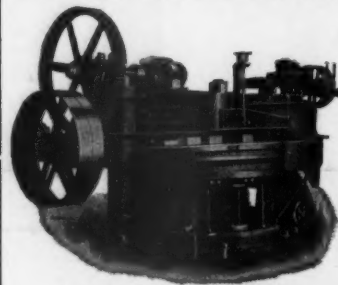
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Full details, catalog, testimonials, etc., sent upon request.

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Built either right or left handed in three sizes of capacities of 800, 1400 and 2200 brick per hour. Can be equipped with extra table for making face and fancy brick on which double pressure is exerted.

Complete Sandstone Brick Plants or Partial Equipments Installed Under Absolute Guarantees as to Capacity, Quality, and Cost of Production.

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SAND LIME OR SILICATE BRICK



This plant located at South River, N. J., was formerly intended to operate under the "Division System" but is now being reconstructed to conform in every detail to the Wiebe-Hydro-Lime-Silicate-Process, and will be when completed the largest plant in the United States with a daily capacity of 100,000 brick.

SAND DRYER

High efficiency and durability

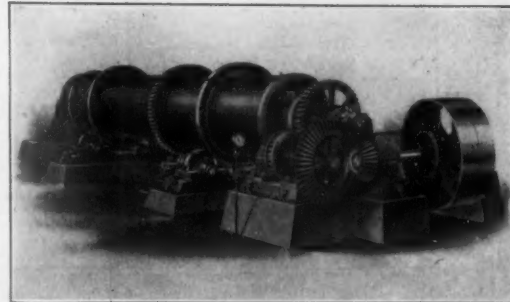
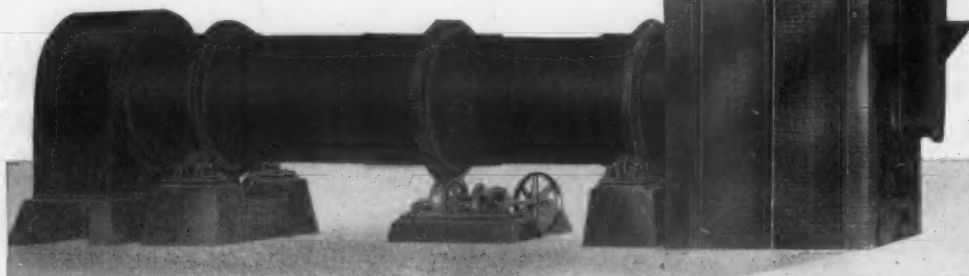
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Dating as far back as 1901, when the manufacturing of commercial silicate brick was introduced into this country, no system has been more successful than the so called "Silo" or "Division" method.

In the ratio that the Silo or Division Process is superior to all other systems hitherto employed, in that proportion the Wiebe-Hydro-Lime-Silicate process is superior to the Division method.

All other processes are commercial impossibilities, and those who are operating under these old methods are losing money and producing an inferior quality of brick.

Will dry your sand perfectly and still deliver it at the discharge end at a very low temperature. At the point where the material contains the most moisture it strikes the hottest fire, and the moisture is immediately drawn away from the material being dried.



Hydro-Vapor Preparation Machine

Eliminates your doubts and worries. No sand-lime-brick plant is complete or successful without this machine. Receiving the material from the Silo, it prepares and delivers same in an absolutely perfect condition for the press.

Do you wish to know WHY our process is superior to all others? If you have any experience in the production of silicate brick, and will allow us to show you the merits of our process, you can easily understand why, and you will then readily appreciate the merits thereof. If you are interested, we will gladly enter into any detail necessary to demonstrate the superiority of our system over all others.

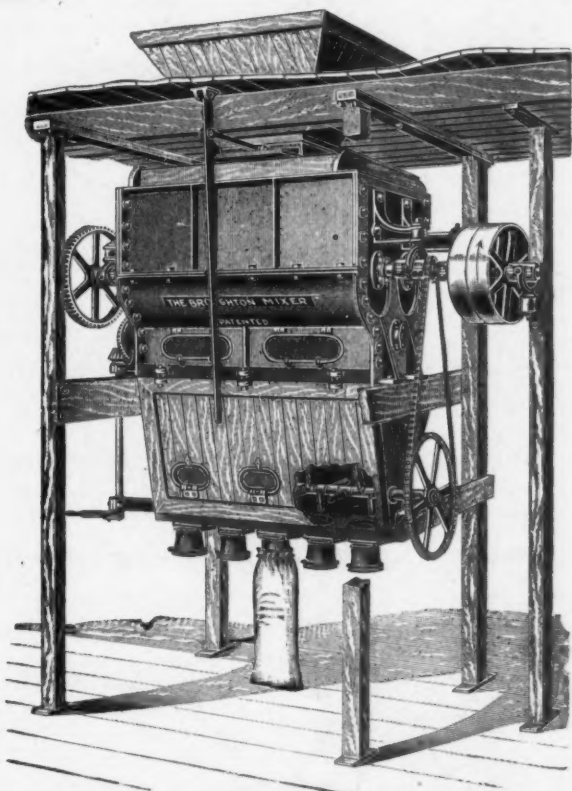
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Sole Owners of The Wiebe Hydro-Lime-Silicate-Process and Special Patented Machinery.

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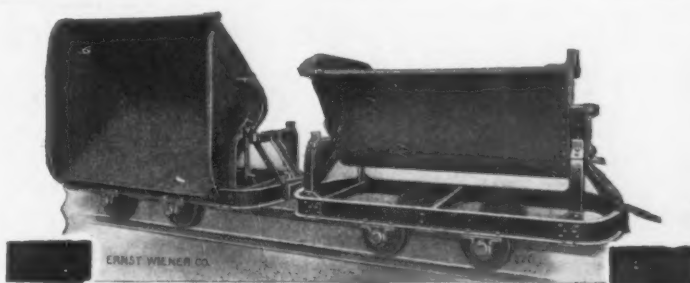
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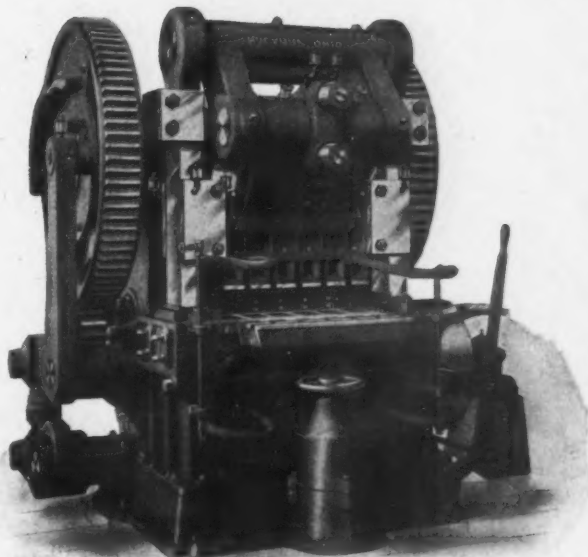
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We also build a full line of machinery and appliances for making Clay Products, Cement and Pottery, Dryers and Dryer Apparatus.

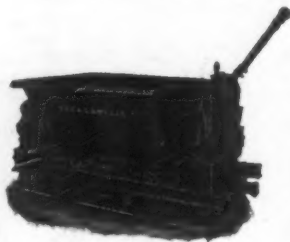
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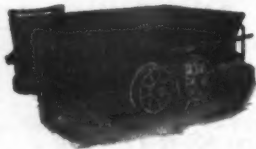
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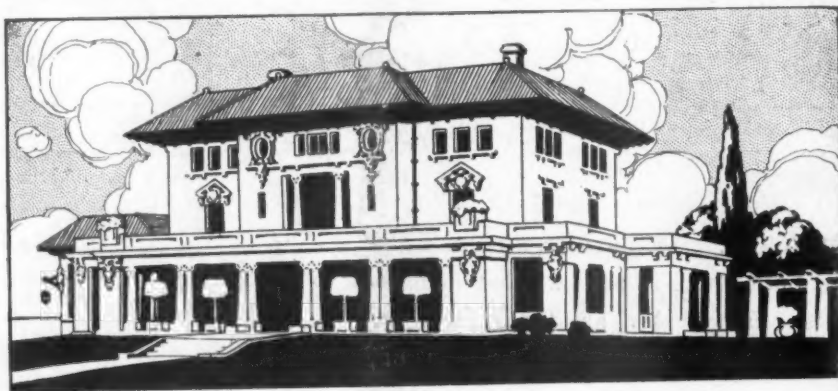
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